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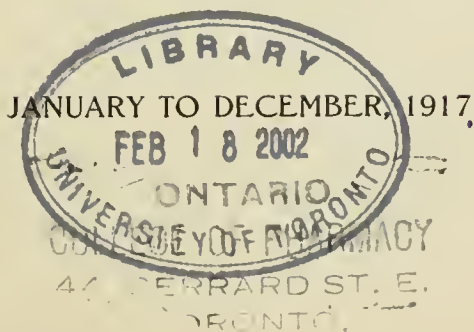
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PROPOSED FOR A. PH. A. RECIPE BOOK

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The Index published in Vol. V of the JOURNAL contains a list of Formulas beginning with February 1912, up to and including December 1916. Besides the titles many cross references are listed so as to make the Index complete and of value to the members.

Suggestions and criticisms are always welcomed by the Chairman,

OTTO RAUBENHEIMER, Brooklyn, N. Y.

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NO. 1

CHARLES HOLZHAUER.

President-elect Charles Holzhauer, of Newark, N. J., was born in Cassel, Germany in 1848. When three years old he came to this country with his parents who settled in Newark, and here the subject of the sketch has resided ever since. Both of Mr. Holzhauer's parents died before he had reached the age of twelve years and, therefore, he was largely thrown on his own resources early in life.

He was engaged for a short time in a factory before his employment, in 1862, with Dr. Marsh who was then proprietor of the drug store now owned by Mr. Holzhauer, therefore, he has been located in business continuously at this same place for upwards of fifty-four years. Prior to entering the drug business, Mr. Holzhauer had attended the public schools in Newark, and was also given further opportunity of attending school while engaged with Dr. Marsh. Later he matriculated at the New York College of Pharmacy and was graduated from that institution in 1872. Dr. Marsh sold the drug store in 1870 to W. A. Conover and the latter conducted it until 1880 at which time Mr. Holzhauer bought a half interest and in the following year became sole proprietor. Mr. Holzhauer was a member of the first New Jersey Board of Pharmacy and also served as its president. In 1881 he was elected president of the New Jersey Pharmaceutical Association. He was trustee of the New York College of Pharmacy from 1892 to 1897 and vice-president in 1891.

Mr. Holzhauer joined the American Pharmaceutical Association in 1873 and has been a regular attendant since, usually accompanied by Mrs. Holzhauer. He was first vice-president in 1905 and at the last meeting was local secretary and also chairman of the Historical Section. Mr. Holzhauer's life has been a success in every way, not only is he highly respected as a citizen and pharmacist but his success in business has made it possible for him to become interested in quite a number of financial institutions of his home city.

EDITORIAL

E. C. EBERLE, Editor

253 Bourse Bldg., PHILADELPHIA

A WISH FOR THE NEW YEAR

AN association is a union of individuals for doing collectively what unassociated individuals cannot accomplish. The power and influence of an association represents the total power and influence contributed by individual members.

The basis and backbone of an association is the quality of membership, and the quality is determined not only by numbers, although that is important, but by the personal and affirmative work and interest of every member in support of the purposes for which the organization exists. The successful organization, therefore, depends primarily upon the individuals composing the membership and not, as many hold, upon the officers. The function of the latter is primarily, though not wholly, to carry out the instructions of the former. The functions of officers are usually clearly stated and only within these defined limitations have officers the initiative. Power and initiative are resident in the great body of members from which they must emerge to be translated into actions and proceedings through established parliamentary practices and channels. One member, therefore, has as much power, as many privileges and rights as another, but also as many corresponding duties. Too many members feel that their duties are met when they pay their dues. But what are dues for? They are for maintaining the agency through which the wishes and needs of the members are to be carried out, but too many members fail to express their wishes. Often the officers are expected to discern these wishes and execute them and thus perform functions belonging entirely to the membership body. Of the membership of the A. Ph. A., as of that of every other association, too large a proportion is passive and indifferent to the aims and purposes of the association. The justified presumption is, therefore, that they acquiesce in whatever is done by the rest, but an association belongs to and is for each and every member. That not all exercise the rights and duties of their proprietorship-in-common is perhaps a compliment to those who do exercise these privileges, but any association is strong or weak according, on the one hand, to the number of members who are constructively active and affirmative, or, on the other, indifferent or acquiescent.

Now, my most earnest and sincere wish is that all those members who have heretofore been satisfied with what the rest did, take a more active and helpful interest in the affairs of the Association; that they will attend in increasing numbers the annual meetings; that they will become more and more conscious of, and exercise, their proprietorship in the Association; and that by their added strength and coöperation they will augment the already traditional upward influence of

the Association to the end that with unified effort and accomplishment of all of the members the grand old A. Ph. A. will acceleratingly influence upwardly the development of the pharmaceutic body in the years to come.

To all the members I send heartiest greetings and the best wishes that I am capable of for a successful pharmaceutical year. I wish all might have a vision of the possibilities that are inherent in our Association and the determination to bring about a realization of this vision. By united, coöperative and sympathetic work undreamed-of things can be realized. Our work should and must be more constructive and upward in the future, not because it has not been sufficient in the past but because of the greater requirements and obligations of the present and the future. A few cannot do these things—all must put their shoulders to the wheel.

FREDERICK J. WULLING, *President.*

OUR ASSOCIATION.*

WITH the beginning of another year our thoughts may well linger for a while with the American Pharmaceutical Association and its work, so that our enthusiasm may enliven a determination to increase the numerical strength and influence of the organization. A hopeful attitude intensifies the power of our influence; passivity is an impossible antagonist.

An association, when properly activated, when the members work together for a common purpose, presents great possibilities. The individual in an undertaking may not be able to produce desired results that are easily accomplished by the energy of hundreds or thousands. Coöperation has been compared to the drops of water of the Niagara. Each drop is insignificant in its individual energy, one drop of the same potency as the other, but together form the greatest power of the continent, because every drop is working. The individual can do comparatively little, but together, the many, by trying and working together, not only may, but will accomplish much. The secret then of progress is to bring as many members into the Association as possible.

The individual member too often says, my efforts amount to little, when he ought to consider that he is part of the organization, and no one in it more influential than he. There are perhaps others who imagine themselves the more important, though they are not; in order to achieve, they must have the coöperation of every other member. Usually this thought is not well founded; we need to know each other better; in the analysis it will be found that every member in reality has the success of the Association at heart, and when any one seemingly assumes an attitude of greater importance, it is simply an evidence of the enthusiasm within. The enthusiast should not be discouraged but those who have willingly permitted others to do their work should join the "anvil chorus."

* This editorial was written before President Wulling's message was received.

The growth and value of the Association is dependent upon the work of the members, their knowledge of, and faith in, the mission of pharmacy. Faith in the results to be accomplished by the Association must be accompanied by potential, persistent energy, and coördination and coöperation are essential to all successes. The problems of pharmacy and medicine are solved by votaries meeting on common ground of faith, work and scientific thinking. Without activated thought there can be no progress. The members must consider themselves as the Association. The progress of pharmacy would be more satisfactory if a larger percent of the votaries had a firmer belief in its mission and if they realized the need of, and exemplified, coöperation. Coöperation that does not extend beyond the limits of the pharmacy or certificate of membership in the Association has little value.

The wonderful progress of the medical profession is not only due to the higher education demanded by medical institutions, but by and through the fact that physicians have impressed the laity with their valuable service, that they are as willing to teach the methods of preventing diseases as treating them. So also the dentists have awakened to their opportunities and apprised the public of the value of their services. In all of this work pharmacists have shared, but they have not acquainted the public with their part of the service. We cannot expect to legislate ourselves into independence nor survive in isolation; we must educate the public to recognize the value of our services.

The progress of the medical profession is largely due to the building up of a numerically strong organization. The stronger the American Pharmaceutical Association becomes the greater will be the achievement of pharmacy, and the way to build up the Association is by united endeavor.

We have passed into another year; 1916 has given us a new Pharmacopoeia and National Formulary, and the credit of their construction is largely due the members of the American Pharmaceutical Association. This is not the work of one year, but the result of continued study, and while the past year marked the completion of the present revisions, these make it possible to improve the next. The A. Ph. A. Recipe Book is under way and will further evidence the usefulness of the Association.

The Association is active in assisting and formulating legislation that will serve the public, based on rational thought. This endeavor alone should be sufficient to enlist the support of pharmacists everywhere. Then the coördination of state association work is assuming shape, and with the proper interest will be helpful to pharmacists in all states and aid them in utilizing proven plans.

The drug business has had its difficulties in a commercial way, but they have been met, and in summing up, the advantages gained have probably balanced the disadvantages, for many who had never before realized that their margin of profit was not sufficiently large, advanced their prices. Other drugs have taken the place

of those unobtainable and may be the impetus for establishing a materia medica, the supply of which will never again be as seriously interfered with as during the recent years.

We should think of the past as an experience given; whatsoever the experiences have been, they will profit us, provided we are willing to learn their lessons; we should not think of them as fixed guides, however, but rather as vanes, showing us direction, and if we are not satisfied, change them. E. G. E.

THE VALUE OF THE JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION TO AMERICAN PHARMACY.

THE completion of another volume of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION suggests that something should perhaps be said relative to its progress.

The publication of the *Proceedings* and of the JOURNAL was never considered in the light of a financial investment, but as necessary for the recording of transactions of the Association and of pharmaceutical work. The change to the JOURNAL was made because the papers of Association contributors would be printed earlier, and if they desired to add to this matter during the year, the opportunity was open, or if related work had been undertaken by others, this might also be submitted and thus a greater value be derived. The plan was not an original one of the American Pharmaceutical Association, but in this thought the lead of pharmaceutical associations in other countries and related organizations in this country was followed.

In the first issue of the JOURNAL, Dr. J. H. Beal, then editor of this publication, presented these thoughts:

"The JOURNAL is not an object but an instrument. The American Pharmaceutical Association does not exist for producing the JOURNAL, but this publication has been brought into existence to serve the necessities of the Association.

"The several branches of pharmacy very properly have their separate associations and organs: the American Pharmaceutical Association aims to represent pharmacy as a whole, and as a grand division of human vocations, it acknowledges a duty to every legitimate subdivision and to every individual connected therewith, and professes to afford a forum where all may have a fair hearing and be judged according to the evidence and the argument. The American Pharmaceutical Association may be termed the clearing-house of pharmaceutical opinions and affords every branch of pharmacy the opportunity to present its own views and to advocate its peculiar policies. The same will be true of its official organ, and the editor will as readily print the views of those who do not agree with him as of those who do, provided they are in other respects of sufficient merit to warrant the use of space required and free from offensive personalities."

In an address the writer named the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION a catalyst in the sense that it reacts by contact. The application is, the JOURNAL is something helpful for the activities of those whose interests the publication serves. While in a way the JOURNAL may stimulate new thought, direct attention, it is a means, and this has been provided by the members of the Association, so that their investigations and conclusions may be promptly transcribed and studied for application and for utilization in the promotion and betterment of pharmacy. The fact remains that the JOURNAL is a creature of the Association, and this must be recognized not only by those who have the publication in charge, but by those who created it. The editor might desire to shape the JOURNAL according to his individual views, but if these did not harmonize with the activities and thoughts of the membership, the publication would become feeble and a product of conceit. The management must recognize the will of the Association, and be subject to its direction. The JOURNAL is shaped, therefore, by the opinions of the membership, either directly or by reaction.

It is impossible to disconnect the JOURNAL from the Association, for whatever is said of it applies in a degree to the "Record of its transactions." No one disputes the value of the work done by the members of the American Pharmaceutical Association, their papers present investigations on subjects that are directly concerned with pharmacy and their reports bring to the attention of pharmacists, whether affiliated or not, practical methods which have proven profitable and advantageous and even essential to their business. Certainly the story of business conduct from buying and manufacturing to exploitation and sale, told by experienced and successful men has intrinsic value, so also information relating to magistral pharmacy. All of these reports, largely original matter, come to the attention of retail pharmacists through the JOURNAL. Thus the JOURNAL serves the members as an advisor, an instructor, a guide, a time-saver, a reference, each issue of which bears the messages of one pharmacist to another, yea going further, and with the spirit of altruism disseminating the knowledge of discoveries and investigations of the contributors into every pharmacy.

The Association represents pharmacy as a whole, a grand division of human vocations; its sections have a helpful relation one to another, they are links of a chain or segments of a circle. Occasionally the charge is made that the American Pharmaceutical Association is not of value to the retail pharmacist, the discussions and papers are of a character that are not serviceable to them. First of all, the Association is what the members make it. Even the members sometimes fail to realize how far wrong the impression is, that the matter offered in the JOURNAL does not serve the every-day pharmacist. A survey of the papers printed in the JOURNAL during any given year will very quickly controvert the assertion of impracticability for the pharmacist. Fully 75 percent of the papers are directly

concerned with his work. Practically all of the papers read before the Scientific Section are concerned with drugs or preparations of them. The very fact that every branch contributing to the drug business is represented here has developed the Sections and made the sum total of the work accomplished and reported by the Association of inestimable worth to the pharmacist. But he obtains this information so easily, so cheaply, that he expects more, and after all, *dissatisfaction* is essential for inciting progress.

The preliminary reports of the Pharmacopoeia and National Formulary and now of the A. Ph. A. Recipe Book are printed in the JOURNAL and thereby every pharmacist has a voice in the perfection of these authorities. The great value of the JOURNAL is in that it is owned and controlled by representative American pharmacists. The JOURNAL is plastic, the members are the molders, the activities of pharmacy shape it; in it are presented not only the different opinions of pharmacists relative to the same subject, but their coördinated views on every subject concerning pharmacy. The members give testimony, and read that given by others, and also pass judgment. They themselves produce the JOURNAL and it is this representative character that gives the publication value and exemplifies pharmacy to the non-member, because the American Pharmaceutical Association is the recognized representative of American pharmacy. The great value of the Association is that the members profit by the results of their coördinated and coöperative efforts, and the JOURNAL provides a record for their reference and study.

It must be remembered that the JOURNAL is in no sense a competitor of the excellent publications devoted to the various drug interests, indeed its object is to be helpful to them, work with them, and their reciprocity is entitled to commendation. They are deeply interested in the welfare of the Association. The JOURNAL is above all the official organ of the American Pharmaceutical Association. Whatever income may be provided simply enables the JOURNAL and the Association to broaden out in their activities.

While the JOURNAL may never become a paying financial investment, there has been a growth from year to year in the receipts of the publication, and in the year past these have amounted to 50 percent over that of the next highest preceding year, and the cost of production somewhat less. The members can be helpful by expressing their appreciation to advertisers, and by their patronage repay these friends for their coöperation.

The opportunities of the JOURNAL can be increased, and the harmonious co-operation of the members is invited to that end, as one of the means of helping the American Pharmaceutical Association. The JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION can be made a power for the greatest good of American pharmacy. Will you help?

"IT CAN'T BE DONE."

Somebody said that it couldn't be done,
 But he, with a chuckle, replied
 That maybe it couldn't, but he would be one
 Who wouldn't say so till he had tried,
 So he buckled right in, with the trace of a grin
 On his face; if he worried, he hid it.
 He started to sing as he tackled the thing
 That couldn't be done—and he did it.

Somebody scoffed, "Oh, you'll never do that!
 At least no one has ever done it."
 But he took off his coat, and he took off his hat,
 And the first thing we knew he'd begun it;
 With the lift of his chin, and a bit of a grin,
 Without any doubting or quiddit,
 He started to sing as he tackled the thing
 That couldn't be done—and he did it.

There are thousands to tell you it cannot be done;
 There are thousands to prophesy failure;
 There are thousands to point out to you, one by one,
 The dangers that wait to assail you;
 But just buckle in with a bit of a grin,
 Then take off your coat and go to it;
 Just start in to sing as you tackle the thing
 That "can't be done"—and you'll do it.

—*Life and Action.*

E. G. E.

RESPONSIBILITY IN FRIENDSHIP.

There is great responsibility in friendship. We are apt to forget that we owe much to a friend who comes into our life. We like to be cheered and stimulated ourselves in the companionship of congenial friends, but we do not always think what we may be to them, what they may be looking for, waiting or hoping for; just a word of cheer, or sympathy, or encouragement, or, it may be, a word of counsel. We are often too self-absorbed to see what they want, or, perhaps, we are selfishly indifferent, provided we have been pleased and cheered ourselves. Truly, we are not fit to be a friend until we realize responsibility in friendship. The essential thing is to be a friend.—Mrs. Frank Learned.

STEPS IN THOUGHT.

Observation, comparison, deduction and trial the success or failure of which inspires and directs further observations which form the starting point of a new and wider cast of his net into the sea of the unknown, these are the successive steps in the discipline of thought which has slowly and inevitably led man from helpless dependency on the caprice of nature to the present day when his words travel with the speed of light and his instruments pierce the depths of interstellar space.—T. Brailsford Robertson.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

PHYTOCHEMICAL NOTES.*†

From the Laboratory of Edward Kremers.

81. The Oil of *Pinus sabiniana*.

BY ROLAND E. KREMERS.

That the oleoresin of the Digger's pine of California does not, upon distillation, yield a turpentine oil but a product that bears resemblance to some of the lower fractions of American petroleum was observed during the seventies of the past century.¹ That it might be used for similar purposes as those to which petroleum benzine had been put is indicated by the trade name "erasine" under which, for a time, it appeared in the California market.

The identity of the bulk of this oil with normal heptane was established physically by Thorpe² in 1879, and chemically by Schorlemmer and Thorpe³ in 1882. That the oil contains substances other than heptane, though in but small amount, is indicated by its odor and by the synonym "aurantine," under which it likewise appeared in the California market. Whereas the striking occurrence of heptane, as a product of a conifer, attracted the attention of chemists to this hydrocarbon, the one or two percent of non-heptane constituents of the oil are of equal interest to the phytochemist. Rabak⁴ in 1904 endeavored to ascertain something about these other constituents but did not have sufficient material at his disposal to identify any of them. Hence, when a larger amount became available, this was one of the first problems to suggest itself for at least a partial solution.

The physical constants for normal heptane, so painstakingly determined by Thorpe for the hydrocarbon obtained from the Digger's pine, are possibly among the most accurate on record for a hydrocarbon of the methane series. However, if one stops to consider that the hydrocarbon so carefully investigated physically by Thorpe had an optical rotation of about 6.9' it becomes apparent that it could not have been absolutely pure. Normal heptane should be optically inactive.

* The publication of these notes, which has been interrupted for several years, is herewith resumed. Since the publication of the revised list (JOUR. A. PH. A., 2, 724), the following numbers have been published in this Journal:

1912

- 73. R. C. Roark, "Oil from *Mentha citrata*," JOUR. A. PH. A., 2, 839.
- 78. R. C. Roark, "An Unusual Oil of Wormwood," JOUR. A. PH. A., 2, 841.
- 79. O. A. Beath, "Oleoresin of *Pseudotsuga taxifolia*," JOUR. A. PH. A., 2, 303 and 1566.
- 80. O. A. Beath, "A Crystalline Resin Acid from *Pinus sabiniana*," JOUR. A. PH. A., 2, 303 and 1569.

† Read in abstract before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

¹ Wenzel, Am. Journal of Pharmacy, 1872, 92.

² Chem. Soc. Journal, Trans., 35, 296.

³ Annalen, 217, 149.

⁴ Pharm. Review, 25, 212.

The slight angle of rotation can readily be accounted for by assuming that in the collection of the oleoresin, the collector did not discriminate sufficiently between the *Pinus sabiniana* and other species of pine yielding pinene, e. g., *Pinus ponderosa*.⁵ That such mistakes have been made has since then been demonstrated repeatedly. Thus, e. g., an oleoresin from Jeffrey pine, which likewise produces heptane in place of pinene, contained about one-third or more of the oleoresin of *Pinus ponderosa* with which this species is readily confounded by the workmen. This oleoresin was distilled and the oil examined in this laboratory by R. J. Harnon.⁶ In like manner the admixture of a pinene oleoresin with the oleoresin of *Pinus sabiniana* has since then been observed in the Forest Products Laboratory.⁷ Hence, with an unusually pure heptane at our disposal it seemed highly desirable to redetermine the physical constants and to compare them with those of Thorpe.

The chemical identification of heptane from Digger's pine by Schorlemmer and Thorpe involved the repetition of Schorlemmer's classical experiments on the constitution of the methane hydrocarbons. The chlorination, esterification, saponification and oxidation experiments involved, ought to find a place in the laboratory courses for organic chemistry. Though chlorine substitution is mentioned in the textbook as one of the characteristic reactions of the methane hydrocarbons, yet not a single laboratory manual calls for this experiment for the simple and sufficient reason that no sufficiently pure hydrocarbon of this series has thus far been available. With the availability of heptane, it seemed desirable to work out the conditions under which the experiments referred to above could be made laboratory exercises in elementary organic chemistry.

The three problems thus indicated are those, the partial solution of which has been attempted. Well-nigh innumerable other problems in organic, physical and analytical chemistry and even in chemical technology, that are suggested by the possible supply of heptane on a commercial scale, cannot here be considered, but may receive consideration later.

The present report, however, deals only with the distillation of the oil and its fractionation. Already work has been done on the purification of the heptane thus obtained and the redetermination of its physical constants. These, together with the physical constants of heptane prepared from Jeffrey pine, will be made the subject of a separate report. Work has also been done on the higher boiling oxygenated constituents of both oils. The results of this work, which may point the way to an understanding of the genesis of the heptane in these pines, will also appear in a separate report. Finally, it may be pointed out that part of the work done by O. A. Beath on the resin acids of Digger's pine has already been reported (see Phytochemical Notes, No. 80 in JOUR. A. PH. A., 2, 1569). Further reports on this work may be expected.

Material.—The material used in this investigation was obtained in January, 1913, through the kind coöperation and liberality of the Forest Products Laboratory at Madison, Wisconsin. It consisted of fifteen five-gallon cans of oleoresin of Digger's pine or *Pinus sabiniana*. The oleoresin was obtained by boxing and

⁵ "Oleoresin of Some Western Pines," Bull. 119, Forest Service.

⁶ See letter of C. Stowell Smith to E. K.; also lab. notes of R. J. H.

⁷ Personal communication

was collected in the Sierra National Forest, Cal.⁸ Some of the cans were labeled "second grade," one "poor grade." The assumption is that the remaining cans were to be considered as first grade.

The oleoresin as received was a viscous semiliquid.

Distillation of the Oleoresin.—This was distilled during the week beginning December 29, 1913, in the 60-liter Lentz still of the Chemical Laboratory. The distillation was effected by passing steam into the oleoresin as well as into the jacket of the still. The oil separated rapidly from the water of the distillate and a rough separation was effected by means of a separatory funnel. The oil from each can was united, but kept separate from the rest. The aqueous distillate was reserved for cohobation. The contents of one can were found to make a convenient charge. Five cans was the maximum amount handled in a seven-hour day. When the volatile oil about ceased to distil, the distillation was stopped, the residue allowed to settle, whereupon the water rose to the surface and was largely decanted into the cans. The resin, while hot, was emptied into wooden boxes and upon further cooling solidified.

After an interruption in the work, the cohobation of the aqueous distillate was commenced on February 2, 1914. About forty liters were emptied into the still as a single charge. Steam was passed into the water only until distillation had begun whereafter the heat from the jacket alone sufficed. When the aromatic odor of the distillate became somewhat less pungent, distillation was stopped and the residue discarded. In this manner about 45 liters of first cohobate were collected. These were again cohobated and the first 8 to 10 liters collected. At first the distillate was milky, later it cleared with a slight separation of an oil on the surface. This oil was collected separately.

The following table records the description of the crude material, the amount of oil obtained, and the density of the oil at 20° as determined by means of a Mohr-Westphal balance:

Expt.	Description of oleoresin.	Amount of oil.	Sp. gr. at 20°.
1 Dec. 29.....	"Second grade"	1750 Cc.	0.6861
2 Dec. 29.....	"A"	2090 Cc.	0.685
3 Dec. 30.....	"A"	2300 Cc.	0.685
4 Dec. 30.....	"A No. 5"	2390 Cc.	0.685+
5 Dec. 30.....	"A No. 5"	2240 Cc.	0.685+
6 Dec. 30.....	"A No. 4"	1950 Cc.	0.685
7 Dec. 30.....	"A No. 5"	2500 Cc.	0.685+
8 Dec. 31.....	"A No. 3"	1875 Cc.	0.685
9 Dec. 31.....	"A No. 3"	2170 Cc.	0.685
10 Dec. 31.....	"A No. 4"	2725 Cc.	0.685
11 Jan. 2.....	"A No. 2"	2415 Cc.	0.686
12 Jan. 2.....	"A"	2440 Cc.	0.685
13 Jan. 2.....	"No. 8, second grade"	1110 Cc.	0.685
14 Jan. 2.....	"No. 7, second grade"	1725 Cc.	0.685
15 Jan. 2.....	"Poor grade"	1451 Cc.	0.685
Total.....		31,131 Cc.	

Assuming the total weight of oleoresin approximately to have been 600 lbs., the average yield of oil may be assumed to be approximately 7.8 percent. The

⁸ See letter from C. Stowell Smith to E. Kremers, Dec. 2, 1912.

best yield (Expt. 7) on the same assumption is 9.4 percent, the poorest yield (Expt. 13) 4.2 percent. A comparison of these yields with those obtained by previous investigators is afforded by the data recorded in the following table:

Investigator.	Yield.
Rabak ¹	7.3 percent
Schorger ²	11.4 percent
R. E. K. ³	7.8 percent

FRACTIONATION OF THE OIL.

With the exception of the small amount of oil obtained by the cohobation of the aqueous distillates, all of the fifteen oils obtained by the steam distillation of the oleoresin were united and fractionated by steam. For the greater part of the distillation the heat of the steam jacket sufficed. The residue was driven over by passing steam into it, hence was distilled with water vapor and the oil thus obtained separated in the usual manner. The bulk of the oil, distilled by itself, was collected in liter fractions, thirty-one such fractions, all colorless, being obtained. Fraction 32 consisted of about 100 cc. of a mobile yellow oil of an agreeable odor and was obtained by separation from the aqueous distillate as already indicated. In the following table these fractions and their densities, as determined with the aid of a Mohr-Westphal balance, are recorded:

Fraction.	Sp. gr. at 20°.	Fraction.	Sp. gr. at 20°.
1.....	0.6835	17.....	0.684
2.....	0.684	18.....	0.684
3.....	0.684	19.....	0.684
4.....	0.684	20.....	0.684
5.....	0.684	21.....	0.6845
6.....	...	22.....	0.684
7.....	...	23.....	0.684
8.....	...	24.....	0.685
9.....	0.684	25.....	0.685
10.....	0.6835	26.....	0.6845
11.....	0.684	27.....	0.685
12.....	0.684	28.....	0.685
13.....	0.684	29.....	0.685
14.....	0.684	30.....	0.685
15.....	0.684	31.....	0.7081
16.....	0.684	32.....	0.8300

The densities recorded above show quite clearly that most of the fractions consisted of relatively pure heptane. Practically all of the material obtained has been utilized in a variety of experiments. As already indicated, several fractions were purified and used for a redetermination of the physical constants. A considerable number were used in chlorination experiments and the subsequent conversion of the chlorides to acetates of the corresponding alcohols. Still others were used as solvent in a variety of phytochemical investigations.

Finally, it may be mentioned that the presence of an aldehyde in the highest fractions has been indicated by the formation of its sodium acid sulphite addition product. Reports on all of these aspects of the work will follow later.

THE COLLECTION OF MATERIAL FOR THE CLINICAL LABORATORY.*

BY J. ATLEE DEAN.

An outline of proper methods for the collection of specimens, also an effort to impress the necessity of delivering material that will reveal the real conditions.

That the laboratory is an indispensable adjunct to the modern practice of medicine must be admitted. The bacteriologist is able to identify and accurately label morbid processes. The various tests enable one to verify and make positive diagnosis. Unfortunately, the amount of assistance that the laboratory can render is often curtailed by the lack of skill and caution with which the specimen is procured, and very often the reputation of the worker is placed in jeopardy by the want of knowledge of the one who collects the material. The conscientious physician of to-day cannot protect those who depend upon him for life and health, except he uses the laboratory; yet, the laboratory is worthless to the man who fails to get a specimen that will reveal the real condition.

The authors¹ of one of our textbooks on bacteriology begin the chapter on the bacteriological examination of material from patients, with the following remark: "In making bacteriological examinations of material taken from patients the validity of results is as fully dependent upon the technique by which the material is collected, as upon the proper manipulation in the later stages of the examination." This is indeed a true statement, appreciated by a small part of the medical profession and worthy of consideration by the pharmacist. It is apparent, without discussion, that the collector of a specimen should make use of his scientific knowledge in obtaining the material; nevertheless, the few remarks presented are of timely interest.

URINE.

Two fluid ounces are sufficient to send to the laboratory. If examined in a reasonable time, or in cool weather, no precaution, other than collection in a clean bottle, is necessary for chemical and microscopical examination. When urine is sent a long distance, more especially in warm weather, the writer suggests the use of a small piece of gum camphor. Many other preservatives have been recommended, among which may be mentioned chloroform, solution of formaldehyde, salicylic acid, and thymol. Chloroform preserves the specimen well from a chemical standpoint, but renders the sediment unfit for microscopical examination, and gives a deceptive precipitate with Fehling's solution. The addition of a few drops of formaldehyde solution has been suggested but it may cause the reduction of the copper solutions, which may be taken for glucose; it also distorts and shrinks the casts and cellular elements. Salicylic acid renders the tests for indican with Obermayer's reagent more difficult, as well as the diacetic acid reaction, giving a coloring with the iron salts in these reagents. The most convenient preservative

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

for the patient to obtain is camphor, which is sufficiently efficient. Therefore this is recommended.

Saxe² is responsible for the statement that the best time to obtain a sample of urine when we do not want the twenty-four hour quantity, is during the day, about three hours after a meal. The reason for this is that the morning urine, which is commonly collected, is least likely to contain slight amounts of albumin, or glucose.

The collection of urine for a bacteriological examination is a different matter and the specimen must be so collected as to avoid contamination with extraneous organisms. In women the proper method is catheterization. In men this is rarely necessary. The glans penis and meatus are thoroughly washed with soap and water, then with diluted alcohol (50 percent); the first portion of urine voided should be rejected, and the last portion collected in a sterile receptacle. Care is necessary, as many cases of colon infection reported are no doubt due to careless technique.

Not only infections of the urinary tract can be detected from examination of a carefully collected specimen of urine, but also infections of the throat, heart, and joints. In rheumatic conditions the joints should be massaged before the urine is obtained. It is much easier to culture urine than blood, and a bacteriological examination of the urine may give us the desired information and furnish the organisms for an autogenous vaccine.

SPUTUM.

Many specimens of sputum sent to the laboratory consist entirely of saliva or, more frequently, of secretions from the nasopharynx. It should be insisted that the sputum be raised by a pulmonary coughing act. The morning specimen should be collected in a clean wide-mouth bottle, corked tightly and the outside washed with alcohol or phenol solution.

PUS.

Pus, for microscopical examination, may be spread upon a glass slide and allowed to dry in the air. For the preparation of an autogenous vaccine the material may be collected upon a sterile swab, placed in a sterile tube and sent at once to the laboratory. Soap followed by alcohol or ether should be used for cleansing the surfaces of boils or abscesses before puncturing them for material, never phenol or mercuric bichloride, which kills the organism or prevents its growth.

GASTRIC CONTENTS.

The test meal usually recommended is the Ewald breakfast, consisting of two slices of dry toast and two cups of weak tea, or preferably water. After one hour the meal is extracted. The meal must be taken on an empty stomach. The first thing in the morning the patient may be instructed to take the test meal at home and report for the extraction in less than one hour after eating it.

BLOOD.

Blood, for the Widal test, may be collected by allowing a couple large drops to dry upon a slide or piece of glazed paper.

Blood, for a differential count or examination for malaria parasites, may be spread upon a glass slide as described by Stitt,³ who credits the method to Daniels, as follows: "Take a small drop of blood on the end of a clean slide, touch a second

slide about a half inch from end with the drop, and as soon as the blood runs out along the line of the slide-end slide it at an angle of 45° to the other end of the horizontal slide." The blood is pulled or drawn behind the advancing edge of the advancing slide.

It is usual to receive the blood for malaria test after a chill, although Wood⁴ claims it is not necessary to obtain blood for the purpose of making a diagnosis of malaria at any particular time in relation to the chill, because if the patient has the disease the parasites will always be found if sufficient care is taken in searching for them, excepting only in the blood of persons to whom quinine has been administered and in some cases of black water fever when the parasites may not appear in the peripheral blood.

Blood for culturing, either for vaccines or diagnosis, should be taken from one of the large veins at the flexure of the elbow. Mallory and Wright⁵ state that about 10 Cc. of blood should be taken and distributed directly by means of the syringe in quantities of 3 or 5 Cc. among flasks, each containing 200 to 400 Cc. sterile bouillon. The blood is thus highly diluted in order to obviate its bactericidal action. The strictest aseptic precautions must be observed in obtaining the blood and in mixing it with the culture medium.

When blood is wanted in quantities, as for the Wassermann and other serum tests, when desired, I furnish the Keidel tube together with instructions for obtaining the blood by venipuncture. This is not necessary as 3 mls of blood are sufficient and can easily be obtained from the fingers as described by Kolmer:⁶

(1) Wash the last joint of the middle finger with alcohol. If the hand is cold it should be warmed by immersion in hot water; before puncturing, compress the finger and squeeze in such a manner as to drive the blood toward the end of the finger.

(2) Prick deeply with a broad blood lancet, Hagendorn needle or scalpel across the lines of the skin.

(3) Collect blood in small test-tube, as blood may be lost on the sides of a large tube.

Sufficient blood can be obtained in this manner, and patients do not object to frequent tests when treatment is being guided by serum reactions. To obtain blood from small children the large toe may be punctured in the same way.

CONCLUSION.

The methods for the collection of material most often sent to the clinical laboratory have been given here. Those collecting material or advising the patients should never lose sight of the importance of proper collection.

In closing, I would recommend that the laboratory worker be frequently consulted, as to how he wishes the material collected and delivered to him, so that the value of the laboratory be increased and patients receive larger benefits at the hands of those in whose keeping they have placed their life and health.

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A RAPID ACCURATE METHOD FOR THE DETERMINATION OF ORGANICALLY AND INORGANICALLY COMBINED IODINE.*

BY WILLIAM J. THOMPSON AND J. PAUL SNYDER.

Recently, while investigating the different methods for organically and inorganically combined iodine, it occurred to the writers that the iodine might be liberated by suitable oxidizing agents and advantages taken of its solubility in chloroform. Upon further examination of the subject, we found that other investigators had used several oxidizing agents, *viz.*, potassium permanganate, nitric acid, etc., while several had used sodium nitrite. As far as we were able to ascertain, all reported inaccurate results when assaying products containing iodine, by methods based upon the above reactions. The principal cause of error which they reported was caused by the reagents used to liberate the iodine, being carried mechanically into the chloroform, or being slightly soluble in the latter, thus interfering with the final titration. Nowhere to our knowledge, has anyone used hydrogen peroxide for liberating the iodine. We, therefore, decided to try out this substance, and accordingly we made several determinations upon different compounds containing iodine. The first thing we discovered was the necessity of the presence of a free acid in the solution of sample. We found upon investigation that acetic acid appeared to be the most desirable for this purpose. After several determinations it was evident that the iodine was liberated only slowly by this method, and at times it was difficult to ascertain if the iodine was completely liberated, which led to varying results. It was obvious to us that we must obtain a more rapid and complete oxidation. After experimentation with many different substances, we found that the addition of a small amount of phosphoric acid overcame this difficulty. The following methods have been in use in our laboratories in the past year, and our experience with them has been perfectly satisfactory.

TINCTURE IODINE—U. S. P.

Tincture of iodine, made according to the U. S. P. formula, should contain 70 Gm. of iodine, and 50 Gm. of potassium iodide in each liter. The U. S. P. VIII has appended an assay process for determining the free iodine, but does not include any method for the estimation of the potassium iodide. We have successfully applied the following method for the estimation of both the free iodine and the potassium iodide, using only one sample. Both determinations may be performed in from twenty minutes to one-half hour, according to the speed of the analyst.

METHOD.

Five mls of the tincture are pipetted into an Erlenmeyer flask of a hundred mls capacity and the free iodine estimated by the usual thiosulphate method. The contents of the flask are then transferred to a separatory funnel of 250 mls capacity. Acidify with 10 mls of acetic acid, add 10 mls of hydrogen peroxide

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

and 5 mls of phosphoric acid. The whole is carefully mixed by a whirling motion of the funnel and the liberated iodine is shaken out with successive portions of 25 mls each of chloroform. The last portion should not show a pink color indicating that the free iodine has been completely exhausted. The chloroform extractions are collected into a second separatory funnel containing 100 mls of distilled water. In order to free the chloroform from any free acid that may have been dissolved by the chloroform, or carried through mechanically, the contents of the funnel are shaken. After complete separation of the liquids the chloroform solution is drawn off and again washed with 100 mls of distilled water, care being taken that no free iodine is left in the wash water. The chloroform is transferred to a 500-ml flask containing 100 mls of distilled water, the whole thoroughly shaken and if the aqueous layer still shows an acid reaction, a small portion of sodium bicarbonate is added and the flask again shaken. After complete separation, 20 mls of a 10 percent solution of potassium iodide are added. $\frac{N}{10}$ sodium thio-sulphate solution is run in from a burette in small portions, and the flask shaken vigorously after each addition. When the chloroform layer shows only a faint pink color a few drops of a starch solution are added and the titration continued, drop by drop, until no blue color persists. From the total number of mls of $\frac{N}{10}$ sodium thiosulphate solution consumed in the latter determination, are subtracted the number of mls consumed in the estimation of the free iodine. The remainder multiplied by 0.0166 and the result by twenty will give the amount of potassium iodide in 100 mls of tincture of iodine.

ESTIMATION OF ORGANICALLY COMBINED IODINE.

TYPE A.—IODOFORM.

Probably the one preparation of iodine in which it has been most difficult to estimate the iodine content is iodoform gauze. Previous to this we have been converting the iodine of the iodoform to potassium iodide with alcoholic potassium hydroxide, evaporating the alcohol, breaking up the resultant iodide with ferric chloride and hydrochloric acid, and distilling the liberated iodine into a solution of potassium iodide and titering with $\frac{N}{10}$ sodium thiosulphate solution. While this method is theoretically correct, practical demonstration reveals the presence of many possibilities of error which may affect the results. Portions of the ferric chloride and hydrochloric acid may be mechanically carried over into the potassium iodide, thereby liberating free iodine from this solution and causing high results. Another possible source of error is the escape of iodine from the potassium iodide-iodine solution in the receiver. Taken as a whole, we considered the method clumsy and unprofitable for our use, due to the valuable time consumed in setting up the apparatus and evaporation of the alcohol and general manipulation of the process. The following scheme of analysis offers little or no possibilities of error, consumes considerably less time, and is not nearly so complicated as the distillation method. A portion of the moist gauze (about 20 Gm.) is placed into the reservoir of an extraction apparatus, while 50 mls of alcoholic potassium hydroxide are added to the extraction flask. The contents of the flask are boiled, which drives the alcohol up into the condenser; the condensed alcohol falling back on the gauze dissolves the iodoform which is then carried into the flask where it is converted by the potassium hydroxide into potassium iodide by boiling.

When the iodoform has been exhausted from the gauze, which is recognized by the absence of color in the gauze, the operation is continued for ten minutes, which insures the complete conversion of the iodine in the iodoform into potassium iodide. The contents of the flask are now transferred into a separatory funnel and the method continued as in the determination of potassium iodide in tincture of iodine. One mil of $\frac{N}{10}$ sodium thiosulphate solution is equivalent to 0.0131 Gm. of iodoform. The gauze is removed from the cylinder, dried and accurately weighed, the weight added to the amount of iodoform found, and this total divided into the weight of the iodoform will give the percentage of iodoform in the gauze. The above calculations are based upon the weight of dry gauze which we have found most applicable for the determination of the active constituent of medicated gauze.

ESTIMATION OF ORGANICALLY COMBINED IODINE.

TYPE B.—IODINE ORGANICALLY COMBINED IN OILS.

Recently, there have appeared upon the market several oily preparations containing combined iodine. We were called upon to confirm the statement on the label, which claimed 10 percent iodine, and found that the following method was applicable for the estimation of iodine in this combination.

About 1 Gm. of the preparation is accurately weighed into a tared flask, 30 mls of half-normal alcoholic potassium hydroxide are added and the whole boiled under a reflux condenser until the oil is completely saponified, the contents of the flask transferred to a separatory funnel and about 30 mls of chloroform added and the whole shaken. After separation the chloroform is drawn off and discarded which removes the fats that interfere with the final titration. Should an obstinate emulsion occur here it may be broken up by the addition of acetic acid. Phosphoric acid and hydrogen peroxide are now added and the iodine is shaken out with chloroform as in the preceding methods.

DETERMINATION OF FREE IODINE AND POTASSIUM IODIDE.

IN IODINE OINTMENT.—U. S. P.

The determination of free iodine is essentially the same as that proposed by Mr. Leo S. Fried, *JOURNAL A. Ph. A.*, 4, 621. A weighed portion of the sample is dissolved in chloroform, water added and the free iodine titrated with $\frac{N}{10}$ sodium thiosulphate solution. To determine the potassium iodide, one gramme of the ointment is accurately weighed into a tared flask and the whole boiled with alcoholic KOH. After removal of the fats with chloroform, the procedure is the same as in the previous methods. From the total iodine subtract the free iodine, and calculate the remainder to potassium iodide.

A sample of iodine ointment was carefully prepared according to the U. S. P. directions. After standing two days it was assayed by the above method and found to contain 3.66 percent free iodine and 4.06 percent of potassium iodide. After standing two weeks the preparation assayed 2.71 percent free iodine, and 4.08 percent potassium iodide.

When we first attempted the assay of this preparation by this method we expected to find about 7.1 percent total iodine, this being the theoretical amount calculated from the potassium iodide plus the free iodine. While we had no

difficulty in obtaining check results, we invariably found that the results were lower than the theoretical amount. This was indeed puzzling to us, but after several determinations we found that the difference between the free iodine and the total iodine was constant, and this difference when calculated to potassium iodide was found to be about 4 percent which is the theoretical amount of potassium iodide incorporated into the preparation. We conclude then that boiling with alcoholic KOH does not free the iodine absorbed by the ointment base. No doubt if a suitable method for converting the absorbed iodine to some iodide which is easily broken down, the entire iodine content of the ointment may be determined by this method. To date, however, we have been unable to accomplish this.

A sample of tincture of iodine was prepared by us according to the U. S. P. formula, the ingredients being accurately weighed upon our analytical balances. When assayed according to the above method the following results were obtained:

No. 1.....	Iodine	6.92%	Potassium Iodide	4.97%
No. 2.....	Iodine	6.92%	Potassium Iodide	4.92%

A sample of potassium iodide, U. S. P., assayed 99.69 percent pure, when broken up and the liberated iodine determined as above and calculated to potassium iodide.

A sample of iodoform, U. S. P., when assayed yielded 100.1 percent pure.

A sample of an oily iodine preparation, labeled 10 percent, assayed 10.23 percent and 10.29 percent iodine.

We have also successfully applied this method for the determination of iodine in the following substances: Ferrous iodide, calcium iodide, and calcium iodized tablets, and conscientiously believe that the method is accurate, rapid and may be applied to practically all combinations of iodine.

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ANALYTICAL LABORATORIES OF THE
 NORWICH PHARMACAL CO.

MANNA: A BRIEF STUDY OF SOME COMMERCIAL SAMPLES.*

BY CHARLES H. LAWALL AND LEROY FORMAN.

Manna has been variously described by the authors of works on *materia medica*. Its history goes back with definiteness to the Arabians of the 8th and 10th centuries. Before that time the name seems to have been applied to a number of substances not even remotely related to our present drug known by that title.

The name originated in Hebrew literature in connection with the manna of the Israelites and it is stated by etymologists that it originally meant "What is it?" That this meaning of the word has some application at the present time is apparent to anybody who makes a practical study of the subject and tries to harmonize the statements in the literature with the properties as shown by analytical investigation.

The favorite statement in literature seems to be that manna contains from 80 to 90 percent of mannite, mannite (mannitol) being understood to be the hexatomic alcohol, $C_6H_8(OH)_6$. Some authorities qualify the statement as is done in U. S. Department of Agriculture F. I. D. 162, in which, among the requirements adopted, is mentioned mannite (soluble in 90 percent alcohol), not less than 75 percent.

That there is a great difference between true mannite and the substance soluble in 90 percent alcohol is shown by the researches of Tanret (*Bull. Soc. Chim.*, 1902, 27, 947), who shows that manna contains notable quantities of other sugars. His analyses show the following composition:

Mannite.....	40-55	percent
Levulose.....	2.5-3.4	percent
Dextrose.....	2.2-3.0	percent
Manneotriose.....	6.0-16.0	percent
Manneotetrose.....	12.0-16.0	percent

together with small amounts of resin and ash and about 10 percent of moisture.

Although, as will be seen, Tanret's work was published 14 years ago, many authorities and works of reference published since then still continue the statement of the presence of large quantities of mannite and give the impression that simple extraction with strong alcohol and cooling of the solvent will result in the production of beautiful crystals of mannite.

Several samples of manna have been submitted for investigation, which were slightly substandard as regards solubility in 90 percent alcohol; an attempt was made to obtain samples of various ages and qualities in order to make a comparison of some of the chemical and physical properties with those of the suspected samples.

For purposes of comparison a sample of pure crystal mannite was also obtained. All of these samples were subjected to a number of tests and determina-

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

tions, as shown by the following table. The old samples came from collections in the Philadelphia College of Pharmacy and represented the highest type of the market product of their respective periods:

	Mannite: pure crystals.	Sus- picious sample.	Sample of so- called high- grade manna purchased in open market.	Sample of large flake manna at least 25 yrs. old.	Sample of small flake manna at least 25 yrs. old.	Sample of large flake manna over 30 yrs. old.
* Polarization of whole manna be- fore inversion.....	0°	73.5°	72.8°	73.8°	78.0°	45.8°
Polarization of same after inversion..	0°	52.9°	39.5°	59.2°	51.5°	37.2°
Reducing sugars before inversion...	None	17.10%	13.2%	17.7%	10.8%	11.3%
Reducing sugars after inversion....	None	36.4%	32.6%	26.6%	26.8%	16.6%
Percent sol. in 90% alcohol.....	Entirely soluble	68.8%	90.5%	93.7%	77.9%	96.7%
Polarization of alc. sol. ext. before inversion.....	0°	65.3°	55.1°	44.5°	insuf. material	57.3°
Polarization of same after inversion..	0°	51.5°	35.5°	32.3°	"	45.6°
Reducing sugars in alc. sol. ext. be- fore inversion.....	None	15%	16.4%	11.6%	"	18.7%
Reducing sugars in same after in- version.....	None	30.3%	33.2%	23.1%	"	23.9%
Melting point.....	163° C.	131° C.	123° C.	140° C.	140° C.	140° C.
Charring with strong H ₂ SO ₄	None	slight	slight	slight	slight	very slight
Fermentation test with yeast.....	Negative	positive	positive	positive	positive	positive

The investigation of the residue of the suspicious samples after extraction with 90 percent alcohol shows 7.83 percent reducing sugars before inversion and 21.0 percent after inversion.

A brief study of the above results will convince one that there is a necessity for further work upon authentic samples and that the statements of mannite content have been in all probability grossly inaccurate, due to lack of correct knowledge of the subject.

It is true that for the present we may as well retain the requirements of alcohol-soluble matter, ash and moisture that have been promulgated, but it is time to discard the term mannite in connection with this alcohol-soluble factor.

In this connection it is surprising to note that the requirements of the U. S. P. IX make no mention of any of these factors as requirements, although the Swiss Pharmacopoeia since 1907 has required a 90 percent alcohol-soluble factor of not less than 75 percent and a maximum of 10 percent of moisture and 3 percent of ash.

* All of the polarization figures are sugar scale readings in a 200 mm. tube, using 26 Gm. in 100 Cc. of solution.

NEW ORGANO-METALLIC COMPOUNDS*

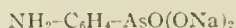
BY LOUIS F. WERNER, A.M.

Inorganic and organic compounds of mercury and arsenic have long been used in the treatment of disease, due to pathological conditions of the blood. Most of these diseases are caused by the existence of bacteria in the blood stream, chiefly of the family known as the Protozoa. To this type of maladies belong sleeping sickness, syphilis, and malaria; in animals, surra, dourine, tsetse fly disease, etc.

Of the several diseases mentioned above, there is no doubt but that syphilis has been the most dangerous, and far-reaching in its effect on mankind, and the one giving the chief incentive to the study of compounds useful in the treatment of diseases of this type.

It must be remembered, however, that the compounds to be spoken of in this paper, were not always tried out on animals and human subjects infected with syphilis, but in many cases other members of the Protozoa group were the parasites, notably those causing sleeping sickness. The pharmacology of these drugs is, therefore, not in an altogether satisfactory condition to make any great generalizations with accuracy as yet.

One of the earliest derivatives of arsenic of organic nature to be used was Atoxyl, para-aminophenyl arsenic acid (sodium salt):

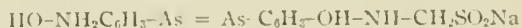


This compound was used with some success in the treatment of sleeping sickness and syphilis, but was found very toxic to the host, and often led to blindness, so that it is very little used at present.

Salvarsan, 606, or chemically *p,p'*-dihydroxy-*m,m'*-diamino-arseno benzene hydrochloride, a derivative of Atoxyl, has been the most successful in the treatment of syphilis, of the many organic derivatives of arsenic prepared to date:



As to the results obtained by the use of this compound, and the method of administration, all are familiar, as well as with its newer derivative, Neosalvarsan; the sodium formaldehyde sulphonylate salt of Salvarsan, mixed with some sodium sulphite:



It is of interest to know of some of the compounds probably investigated by Ehrlich in his search which resulted in the discovery of Salvarsan:

Para-amino-phenyl arsenic acid
Para-hydroxy-phenyl arsenic acid
Ortho, *meta*, and *para* toluidine arsenic acids
Ortho, *meta*, and *para* cresol arsenic acids
 Naphthyl arsenic acids

* Presented before the Cincinnati Branch of the American Pharmaceutical Association.

Naphthol arsenic acids
 Naphthylamine arsenic acids
 Amino phenyl arsenoxids
 Hydroxy phenyl arsenoxids
Para-hydroxy-*meta*-aminophenyl arsenic acid
Meta-dihydroxy arsenic acids
Meta-para-dihydroxy arsenic acid
Meta-para-diamino arsenic acid
Meta-para-diamino arsenoxids
Meta-para-dihydroxy arsenoxides
p,p'-dihydroxy-arseno benzol
p,p'-diamino-arseno benzol
 Di-acetyl *p,p'*-diamino phenol

Besides the above mentioned compounds, many of their gold mercury, platinum and other metallic salts have been made.

Furthermore, it should be remembered, that in the arrangement of the elements according to Mendeleeff, in what is known as the periodic system, the following elements occur in the same column as arsenic: Nitrogen, Phosphorus, Vanadium, Columbium, Antimony, Tantalum, and Bismuth. Compounds of these elements would, therefore, be expected to have many of the general chemical and physiological properties of those of arsenic. Compounds of these elements have been made of analogous structure to those of arsenic, also mixed compounds of them with arsenic:

$C_6H_5-Sb = As-C_6H_5-NH_2-OH$
 $C_6H_5-Bi = As-C_6H_5-NH_2-OH$
 $C_6H_5-P = As-C_6H_5-NH_2-OH$
 $C_6H_5-N = As-C_6H_5-NH_2-OH$
 Nitro-phenyl stibinic acid
 Amino-phenyl stibinic acid
 Hydroxy-phenyl stibinic acid
 Hydroxy-phenyl stibinoxide
 Amino-phenyl stibinoxide
 Nitro-phenyl stibinoxide

Compounds of the sulphur group and arsenic have also been prepared:

$S = As-C_6H_5-OH-NH_2$
 $Se = As-C_6H_5-OH-NH_2$
 $Te = As-C_6H_5-OH-NH_2$

Many of these compounds have been found useful, but as they do not excel Salvarsan, and are often very difficult to make, there is very little probability of them ever being used to any great extent.

As might be expected, the commercial success of Salvarsan and Neosalvarsan has greatly stimulated the study of the organic mercury compounds. The organic compounds of mercury may be placed in two classes,

Type R-Hg-R

Type R-Hg-X

where R is an organic radical, either aliphatic or aromatic, and X is a negative radical or atom as the halogens, nitric acid or sulphate radical, the acetyl radical, etc.

It has been found that, as a general rule, the compounds of the second type are five times as toxic as those of the first class, and it may be said that the toxicity of the compounds of mercury increases with the solubility in the body fluids, and

the case with which ionic mercury can be split off, and is lowered by the ease in which it can be eliminated. The organic compounds of mercury have not come up to expectations, as they are slow of action, and have been found in most cases to be more poisonous to the host than to the bacteria they are meant to kill. The following are a few of the two classes of compounds prepared:

Type R-Hg-R	Type R-Hg-X
Mercury diphenyl	Phenyl mercuric chloride
$C_6H_5-Hg-C_6H_5$	$C_6H_5-Hg-Cl$
Mercury diphenol	Phenol mercuric chloride
$HO-C_6H_4-Hg-C_6H_4-OH$	$HO-C_6H_4-Hg-Cl$
Mercury dibenzoyl	Benzoyl mercuric chloride
$COOH-C_6H_4-Hg-C_6H_4COOH$	$COOH-C_6H_4-Hg-Cl$
Mercury dinaphthyl	Naphthyl mercuric chloride
$C_{10}H_7-Hg-C_{10}H_7$	$C_{10}H_7-Hg-Cl$
Mercury dinaphthol	Naphthol mercuric chloride
$OH-C_{10}H_6Hg-C_{10}H_6OH$	$OH-C_{10}H_6-Hg-Cl$
Diamino-dibenzoyl mercury	Aminobenzoyl mercuric chloride
$NH_2-COOH-C_6H_3-Hg-C_6H_3-COOH-NH_2$	$NH_2-COOH-C_6H_3-Hg-Cl$
Dibenzyl mercury	Benzyl mercuric chloride
$C_6H_5-CH_2-Hg-CH_2-C_6H_5$	$C_6H_5-CH_2-Hg-Cl$
Amino-dihydroxy-diphenyl mercury	Amino-hydroxy-phenyl mercury
$OH-NH_2-C_6H_3-Hg-C_6H_3-NH_2-OH$	$OH-NH_2-C_6H_3-Hg-Cl$

It should be noted that this last compound of mercury is the analogue of Salvarsan.

Besides the typical compounds listed above, there are a myriad of others; derivatives of the aliphatic hydrocarbons, of the dyes, of the alkaloids, quinoline, the pyrazolones, etc. The ones, however, that apparently are the most effective are aromatic derivatives, but even these are too poisonous to be of value in the treatment of syphilis, so that there is very little probability of them ever becoming of equal importance, in this field, to the arsenic compounds.

LABORATORY
WERNER DRUG & CHEMICAL CO.,
CINCINNATI, O.

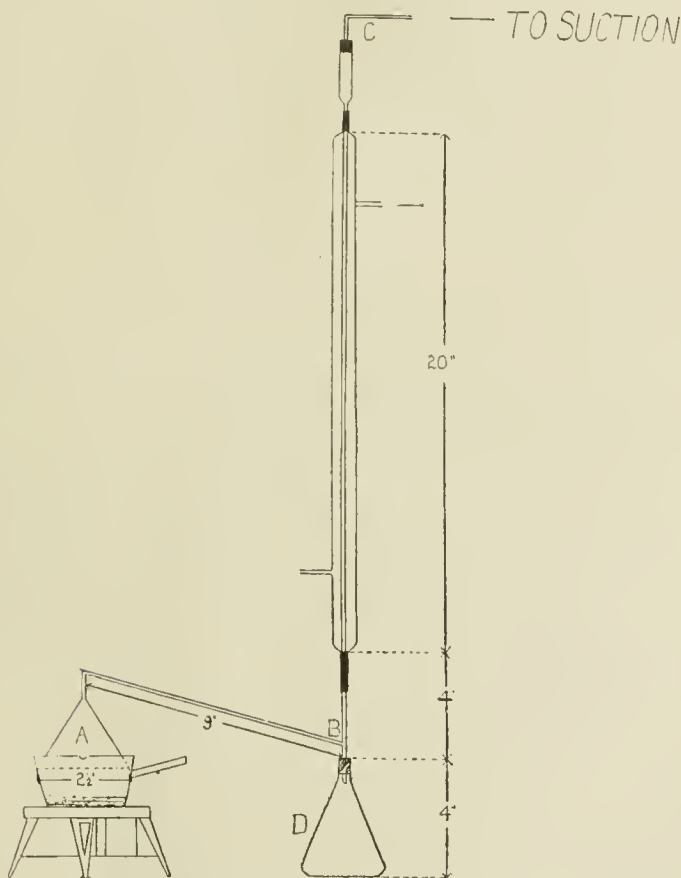
CHANGE OF COLOR IN GREEN EXTRACTS.

Green extracts from the leaves of plants very rapidly lose their color when exposed to light and air, the chlorophyll being converted into chlorophyllan. Yet in living plants exposure to light and air has no effect on the green tint. The author assumes that there is a special enzyme in the plant—an "anti-oxidase"—which protects chlorophyll from the action of light and oxygen, and also from the peroxidase of the tissues, which readily destroys it. In the living plant anti-oxidase accumulates in the plastids in sufficient quantity to counteract the peroxidase. In extracts the equilibrium between the enzymes is disturbed and the pigments are quickly destroyed. During the period of assimilation of the plastids in the living plant the chlorophyll is constantly used up and constantly replaced. The function of the anti-oxidase is to regulate this process, and thus prevent too rapid oxidation.—V. Lyubimenko, *Bull. Acad. Sci. Petrog.; Chem. Abstr.*, 1916, 10, 2467; through *Pharmaceutical Journal*.

A SIMPLE APPARATUS FOR THE RECOVERY, DURING EVAPORATION,
OF ORGANIC SOLVENTS.*

BY HARRY F. LEWIS.

The author has recently had to make a great number of determinations with ten to twenty Cc. portions of organic solvents, and this simple piece of apparatus has been devised for the recovery of these small portions after their evaporation.



Ordinary methods of distillation are not satisfactory here, because it is extremely difficult to remove all the residue from a distilling flask, and in such determinations, it is the residue that is important. Moreover, it is not at all handy to take the time required for such an operation. The ordinary laboratory method, as a rule, is to evaporate the solvent on the steam bath, in an evaporating dish with the subsequent loss of the solvent. This is an expensive procedure, where the amount of solvent lost would average a liter or two a week.

* Contribution from the Pharmaceutical Research Fund, at the University of Illinois.

The apparatus is easily made. A $2\frac{1}{2}$ " funnel (A) with a long stem, is bent as shown in the illustration, and the end of the stem connected with a water condenser at B, about an inch from the end of the inner tube of the condenser. The length of the stem, from the bend to the condenser, should be about nine inches. The top of the condenser is fitted to a water suction by tubing (C), so that a gentle draft may be had. At the lower end of the condenser, a flask (D) is fitted tightly, by means of a cork.

The evaporating dish, beaker, or crucible with its contents, is set on a hot plate, under the inverted funnel, the height of which should be regulated so that it is about a half inch above the surface of the liquid, where the dish has a greater diameter than the funnel. In the opposite case, the dish is simply set underneath the funnel. Enough suction is then applied at the condenser to draw the vaporized solvent through the funnel into the condenser, where it condenses and collects in the flask. By this method small amounts of chloroform, ether, petroleum ether, alcohol, carbon bisulphide, etc., which would ordinarily be discarded, may be recovered for further use.

SOME OF HENRY FORD'S RULES FOR SUCCESS.

Everything begins with thought.

If a man knows where he is going nothing will stop him.

Every man gets what he deserves; if his thinking is wrong he will lose out.

Most people make the initial mistake in business of thinking about the dollar.

If a man is trying in his business to serve the good of others, the money will come, it is bound to come, he cannot fail.

One of the first things every man must realize if he is going to succeed is how little he can accomplish alone; the second is that everyone has some good in him and can do something well.

I believe in big business: the bigger the organization the bigger the opportunity for more men to contribute the special good in themselves.

Every man can do some one thing well, but no man can do a lot of things well at the same time.

In business there is no escaping the law of compensation; if you do a man a mean trick, you pay; if you do yourself a mean trick, you pay.

If a man worries it is because he has done something that's not on the square or else because he hasn't thought deeply enough to clearly understand his problem.

Most people eat too much, and in consequence they sleep too much and don't think enough.

My advice to every business man is: work and read and think and then work some more and then some, but don't ever stop thinking.

Don't ever be afraid of criticism: criticism is the greatest educator in the world if we will only let it be.

JOINT SESSION OF THE SECTION ON LEGISLATION AND EDUCATION, WITH THE AMERICAN CONFERENCE OF PHARMACEUTICAL FACULTIES, AND THE NATIONAL ASSOCIATION OF BOARDS OF PHARMACY

The joint session of the Section on Legislation and Education, with the American Conference of Pharmaceutical Faculties, and the National Association of Boards of Pharmacy was called to order by Chairman F. H. Freericks, of the Section on Legislation and Education at 8.00 P.M., September 6th.

CHAIRMAN FREERICKS: Mr. Burton is not with us, but we have with us the president of the American Conference of Pharmaceutical Faculties, Prof. H. V. Army, and I will ask him to preside during this meeting.

(Professor Army takes the Chair.)

CHAIRMAN H. V. ARMY: The first order of business will be the reports of the Philadelphia meetings last week. Professor Teeters is here; we will ask him to read the reports of the American Conference of Pharmaceutical Faculties.¹

Report read by Professor Teeters.

Moved by Charles Gietner and seconded by Philip Asher that the report be received and take the usual course.

Motion carried.

THE CHAIRMAN: The next order of business will be a similar report of the 13th annual meeting of the Boards of Pharmacy,² by Secretary H. C. Christensen, of Chicago.

Report read by Mr. Christensen.

E. G. Cox moved that the report be received and take the usual course. Seconded by Geo. C. Diekman.

Motion carried.

THE CHAIRMAN: The next two items on the program are, first, the Summary of Important Discussions and Conclusions at the respective meetings of the A. C. of P. F. and N. A. B. P., to be presented by representatives of the respective bodies, and, second. Presentation of Resolutions adopted by the A. C. of P. F. and N. A. B. P. to be acted upon at this session.

It was the intention of Chairman Freericks that the personal touch in these reports should be given by President Burton and the present Chairman. President Burton not being here, I would say that Mr. Haussamen of North Dakota has kindly consented to speak for the National Association of Boards of Pharmacy, with the full understanding that it will be an entirely informal statement.

Now, that being the case, the Chair will speak very briefly on this admirable report of Chairman Teeters and from an entirely informal and personal standpoint. I also want to say that I believe we all would appreciate the value of having this discussion entirely informal, and I hope that the members present at the meetings of this organization will be good enough to enter into the discussions. There was

¹ A report of the meeting was published in the September number of the JOURNAL, pp. 929-943.

² A report of the meeting was published in the September number of the JOURNAL, pp. 944-948.

a large amount of work done, and we should follow these reports, because the American Pharmaceutical Association is deeply interested.

Taking up the subject of the meeting of the Conference, there were three very important accomplishments.

The first one, which I think was of very great importance, was the action of the Conference in regard to the requirement passed at the Detroit meeting, that a two-year high school course should be required as an entrance requirement, beginning January, 1917. This, as the Secretary read, was finally arranged, after very considerable discussion on the subject, to make its adoption mandatory in 1917. I want to speak of this and explain this situation.

It was not a case where the Council has really backed down from its original stand, but was due to changed conditions during the past year. I believe the most important factor that caused this change, from a compulsory to a mandatory resolution, was due to the fact that in the interim, since the last meeting, the New York Pharmacy Law has been so amended that this requirement will begin in 1918. I want to add that the value of the Conference was never more clearly shown than in the way the situation was handled. It was a conference in the truest sense of the word, where men of different opinions assembled and discussed the matter, and when it came to a final result they met in the attitude of forbearance, which is the true ideal of a conference.

There were a large number who favored immediate action. In other words, some of the schools were demanding two years high school work, and there were others who were entirely ready and prepared to begin this in 1917, but there were quite a number, notably those who are directly dependent upon the New York situation, who did not feel that we were quite ripe for the situation, and the result was that for this year, instead of the provision being mandatory, it is recommendatory.

There is another point in connection with this and that is to make this requirement absolutely mandatory, we will have to change our by-laws, and I have no doubt that by next year the time will be ripe for the change.

This is not merely a statement of facts, but I give it to emphasize the value of a conference where men of different minds finally adjusted differences.

The next thing was the handling of the 1920 Resolution. At the San Francisco meeting, or to go further back, at the Detroit meeting, it was recommended that in 1920, a four-year high school course should be made an entrance requirement for admission to the Conference.

At the San Francisco meeting the National Association of Boards of Pharmacy, as we all know, put themselves on record for prerequisite legislation based on four-year entrance requirements and a two-year college course, and that this was to become effective in 1920. This was, of course, a declaration of principles, but no special plans were provided at that meeting whereby this high ideal could be crystallized. The result was that a recommendation was made that this be put in more tangible shape. It was agreed that the Joint Committee referred to in Secretary Teeters' report should try to work up sentiment in each state by submitting a referendum vote, and when a state declared its readiness for prerequisite

requirements, every possible assistance should be given by the Association and the Conference. The idea is eminently practicable, because the legislative committees in each state will realize that behind them are the Association of Boards and the Conference.

The third important point was the report which was given in our Conference and then also in the Association of Boards and then at the joint session held last Saturday, and that was the report of the Joint Committee on Examination Questions. As already stated by the Secretary, there are a number of exceedingly important committees in the Conference, each did very valuable work, and, therefore, it is not a question of invidious distinction when I single out this Committee. I do not mean to say that the others did not do as good work, but this Committee was rather fortunate in the fact that they had the most important work that the Conference and Boards could do, and that is, establishing uniformity in examinations. If they are put on a basis of uniformity, the strongest argument against interchange of certificates will be done away with.

This Committee has collected five thousand questions, which are being classified, and I think that there is no work that these two organizations are doing that is of greater service.

The last point will be very brief. That is the very valuable report of the Committee on Prerequisite Requirements. In appointing this Committee, Professor Day was made chairman for the simple reason that three years ago he presented the most valuable summary of prerequisite requirements it has ever been my pleasure to read. Professor Day was equal to the occasion, and his recommendations, which were read by the Secretary are of tremendous value, and will be of still greater value to the state legislative committees.

These were found so significant that the Conference requested that they be published in the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION,³ and not merely the recommendations, but also the arguments against prerequisite legislation, such as are always advanced whenever we desire to amend pharmacy laws.

If we can pass good prerequisite laws and establish uniformity in examinations, all the other things we desire will come to pass.

While I am on my feet, I will say that there is an exceedingly important report which was specifically referred to this Association at the joint session of the Boards and Conference of Faculties, and that was the report of the Committee on Scholarships. Dr. Alpers, I think, will be here this evening, and when I see him I will ask him to present this report.

H. F. FREERICKS: I do not think we should allow this opportunity to pass for expressing to Professor Army our appreciation of the nice manner in which he has related to us the important things that transpired at the Conference of Faculties last week, and I am certain that I voice the sentiments of all here.

THE CHAIRMAN: Is there any discussion on the subject of the work of the Conference?

ABSTRACT OF DISCUSSION.

WILBER J. TEETERS: There is one report by the chairman of the Executive Committee of the Conference which, it seems to me, would be of interest to us all. The report was given

³ This report was printed in the September number of the JOURNAL, pp. 939-943.

statistically, showing the advancement in preliminary educational matters. These statistics show that at the present time, in the colleges belonging to the Conference, fifty-six percent of the students had four years' high school at the present time.

W. C. ANDERSON: I think that assertion of Prof. Teeters ought to be qualified to the extent that this percentage was based on the colleges heard from. It was not a record of all the colleges, only those who had replied to the request. When you base this number of high school graduates, entering a college of pharmacy, upon the number of men and women who are licensed to practice pharmacy in the United States each year, the proportion of high school people going into the drug business is much smaller. I understand that about twenty-five hundred took examinations during the year, and when you compare four or five hundred high school men with twenty-five hundred, the proportion of high school boys and girls who are taking up the study of pharmacy is quite different.

H. H. RUSBY: That is one thing that impressed me. I was greatly surprised at these figures and I can hardly accept them even yet. I believe that I could find three schools in the Conference which, together, have more students with only one year high school work than the total number covered in that report. I believe that to be true, but I have not looked it up.

Another thing struck me as important. That is, how many persons enter pharmacy during the year and are licensed that have not had even one year. There is nothing said about those who have had no work whatever. All those questions came up in my mind and they were not answered in that report, and I would like to get some information in regard to it. I think the most encouraging thing I heard was, that the Boards of Pharmacy are so strongly inclined to high school graduation. That is most hopeful. Alone, the Conference cannot do much, but if the Boards of Pharmacy are in favor of it they can do a great deal toward bringing it about, and I am more hopeful about seeing four-year requirements at a relatively early date than I have ever been before. That, in my opinion, was the most important result of both meetings.

JULIUS A. KOCH: If I recollect rightly, out of twelve hundred and twenty some odd students matriculating last year, fifty-six percent were high school graduates, and about seventeen percent had one year of high school. The other figures do not run so clearly in my mind, but there was a steady progression. I think that four years ago—the first statistics were four years back—the percentage of high school graduates was in the neighborhood of thirty-five percent, and there has been a steady progression up to fifty-six percent. The men admitted with one year of high school work started, I think, with thirty-four percent four years ago and dropped down to seventeen percent last year.

H. V. ARNY: The question raised was, out of the twelve hundred and twenty, did that represent most of the schools in the Conference?

J. A. KOCH: That represents all of the schools in the Conference from which we had statistics regarding the high school work the students had. I explained when making my report that, for instance, the State of Pennsylvania now requires that pharmacy students present a certificate from the Bureau of Professional Education: we admit our students on this certificate and most of the schools do not report on how much high school work the students had—simply report John Smith on Certificate No. 394 of the Bureau of Professional Education. I presume these twelve hundred and twenty-nine represent approximately half of the students of pharmacy entering schools, which hold membership in the Conference.

H. V. ARNY: Do you think, Professor Koch, that the other half, if heard from, would show a similar ratio?

J. A. KOCH: I think so. Very nearly so.

H. V. ARNY: I would like to ask—among the number given for Pennsylvania, you had no percentage—you just got those whom you knew specifically—there were a good many other students, but you simply have a number?

J. A. KOCH: The only school in Pennsylvania from which statistics were available was the Pittsburgh College of Pharmacy, and I had statistics from these; of the other schools I know only the certificate numbers. The same applies to New York State. Many schools in New York simply note the registration number, the Regent Certificate, on which the student was admitted.

W. C. ANDERSON: Was it not stated in a paper given before the Conference that the schools of pharmacy requiring four years of high school for entrance admitted only one hundred and seventy-six students?

H. H. RUSBY: That does not have any relation whatever to the number of students who had four years of high school, but the schools that demanded four years for admission, only had one hundred and seventy-six.

J. A. KOCH: Therefore, there must have been over a thousand admitted into schools which do not have a four-year requirement.

CHARLES GIETNER: I believe there were four or five states that adopted a prerequisite of four years high school, and Pennsylvania was mentioned as one. According to your statement, Pennsylvania does not have such requirement.

J. A. KOCH: Pennsylvania has no law demanding preliminary requirement. It was simply by common consent that we adopted, first, one year and now, two years.

H. V. ARNY: Has Pennsylvania adopted two years?

J. A. KOCH: The schools in Pennsylvania have.

R. A. LYMAN: To me the most hopeful thing is this, that so many young men and women are themselves seeing the advantages of a high school course before they study pharmacy. That is a most hopeful thing, because that induces public opinion, and they are doing so in spite of the fact that boards are not requiring that for examination at the present time, although they may have recommended it last year. But that recommendation could not possibly have affected the students in the schools last year.

It is certainly hopeful, as Dr. Rusby says, to see this progressive tendency among the examining boards of the United States and to see so many schools take a stand for higher education. I trust that before a great many years we will see a lot more of the schools take that progressive attitude.

GEO. D. TIMMONS: I appreciate the roseate view of the last speaker, but is it not really a fact that progression along the line of education is really the whole thing after all; that there is a larger percentage of young people to-day that take advantage of the opportunities they have and become high school graduates. If you will follow statistics you will find that, not only in pharmacy, but in all other lines a greater percentage have had four years of high school. We have high schools everywhere, and the whole tendency is on an upgrade normally and not because we are asking for it.

GEO. C. DIEKMANN: There is still another phase that seems to me to be of interest, and that is, we can ascertain what percentage of young men and women who pass boards of pharmacy each year were four-year high school people. I do not underestimate at all the value of education. I believe in education and agree with the speakers who uphold four-year requirements, but I fear that a great many of the young men and women who have four years of high school experience are lost to retail pharmacy. They do not stay in retail pharmacy; they do something else. Of course, the education is just as valuable, but I am afraid they do not stay in retail pharmacy—they take up something else, and I would be very much interested if Professor Koch could take up that tabulation.

J. A. KOCH: I think that could be best tabulated by the Association of Boards of Pharmacy. These papers have been so interesting and such a surprise to me that I expect to go into this much more deeply and expect to obtain from the schools statistics which will be more complete, for next year.

CHARLES GIETNER: There appears to be a sentiment that anyone who does not talk two, three or four years' high school is objecting to higher education. That is not so. I came here, not to oppose higher education. I came here to give it a lift, but I came from a State where the time is not ripe for such requirement.

Now, the remarks of Professor Diekman struck me as a valuable thought. Why not let the different State Boards keep such records in tabulated form? I think there are very few in Missouri that come with two, three or four years of high school, a majority have had only one year. I heard only yesterday from Professor Jordan that in Indiana high school education does not enter into the requirements of their Board.

CHARLES GIETNER: I would move that it is the sense of this meeting to have the secretaries of the different State Boards of Pharmacy to tabulate the high school graduates coming up for examination from now until the next meeting.

Motion seconded by Geo. C. Diekman.

C. B. JORDAN: I have attended these meetings year after year, and every one is saying "We are going forward." Our National Association of Boards of Pharmacy have made recommendations as to what State Boards would do, and I went home and braced myself for something to happen, and nothing has happened. I visited Mr. Christensen in Chicago and asked for this same data, and I could not get it. I sincerely hope that it will become available now, if the meeting will ask the Secretary to prepare it.

As Mr. Christensen says, let us go ahead as far as the National Association of Boards of Pharmacy is concerned and say two, three or four years, but let us also get after our State Boards, if it is possible.

E. G. COX: As a member of the State Board of Missouri, I advocate higher education in Missouri, but I think the recommendations of the Board should not become effective until after two or three years, and when the colleges are on such a basis; I endorse Mr. Gietner's motion.

C. S. KOON: It was suggested in Michigan that a compilation, such as has been suggested here, would be very valuable. As the Secretary of the Michigan Board, I would be glad to make this compilation and send it to Secretary Christensen.

The motion was carried.

PHILIP ASHER: Prof. Diekman made the statement that a good many who graduated from colleges of pharmacy do not continue in pharmacy. A great many of these four-year high school graduates who study pharmacy intend afterward to take up medicine, and I think it would be a good thing for the colleges to report each year on their graduates to see how many have continued their work as retail pharmacists.

Therefore, if I am in order, I would move that the Secretary of the Conference be requested to write to the various colleges for such information from year to year.

Seconded by Geo. C. Diekman.

L. E. SAYRE: It seems, we have here two problems: We have, what I might designate as a minimum requirement, which is represented by the boards, and the maximum requirement which the colleges are trying to reach.

The instructor looks upon education itself, and asks the question, what shall he do with regard to people who come to him and how should he prepare them? I do not see how these statistics can help him at all.

Our Chairman remarked in his address the other day that a majority of the students were simply perusers of the Pharmacopoeia and not users of it. I believe that in order to teach a young man to use the Pharmacopoeia—not peruse it—the best foundation is a four years' course in an accredited high school.

THE CHAIRMAN: The motion is that Secretary Christensen be requested to write to the deans of colleges of pharmacy, asking them to start statistics, beginning with 1917, as to graduates in reference to the question, how many four-year high school students remained in the retail pharmacy business, and how many took up other lines of work?

C. B. JORDAN: I would be perfectly willing to do this, if there is any advantage to come out of it. But, after we get the information, what are we going to do with it? Of what value is it, how long are we going to keep these men under

observation? They may go into retail pharmacy and remain three years and then enter some other business or profession.

GEO. D. TIMMONS: Another question is, what percent can we keep track of?

R. A. LYMAN: I maintain that a man cannot be a good dean unless he does that very thing. I think that is one of the duties of an institution—to keep track of its alumni, who they are and what they eventually amount to.

PHILIP ASHER: Last year I received a request from the State of New York, asking this very question, and I took the pains to give them a history, as to the personal status of all our graduates. What reason these gentlemen had for wanting to know what our students were doing, I have no idea. The thought was suggested by the remark of Dr. Diekman. It may not serve any good immediately, as far as the Conference is concerned, but you want to know something of the progress of pharmacy, and it is simply a matter of interest to us to see what our men are doing. If it is too much trouble for the deans, of course, we could not expect them to prepare such records.

L. F. KEBLER: I was discussing with one of the deans of a medical school the question of increasing the entrance requirements of the medical schools, and I asked him, "Are you getting any better results by the higher requirements?" and he said, "I don't know, it is a question."

I think it would be valuable information to know how the work of high school men compared with that of the men who have one year, two years, or no years of such education.

H. P. HYNSON: It seems to me that if we are to learn anything at all from experience in the past, some such statistics as these will be of great value to us.

I remember some years ago, just after I graduated, Dr. Simon read a paper in which he stated that all the better graduates had left pharmacy and taken up some other course. It touched my pride, and I at once went to work and ascertained what had become of the honor men in our college and I was glad to find that eighty-five percent of them had stuck to pharmacy and were making a success.

If we find out that the four-year high school students had stuck to pharmacy and made a greater success than the others, we would then be encouraged to require high school admission. But, if we find that a large percentage leaves pharmacy, and that the man who has had a practical course in a drug store sticks to pharmacy, I think we had better go back to the four-year apprenticeship. I think this will give us the very information we want and I hope that this motion will prevail, and that the deans will be somewhat stimulated to get in touch with their students and find out what does become of them.

Motion carried.

H. H. RUSBY: The gentleman on my right spoke for the Missouri Board of Pharmacy, and I understood him to say that they refrained from increasing their requirements until the schools had reached a more uniform basis as to their entrance requirements. I would like to ask the gentleman what inducement these schools will have to bring about uniformity when one demands two years of high school work and the Board gives an equal opportunity to a man who had never attended any school of pharmacy whatever. We have heard that a school in Missouri that wants to increase its requirements cannot do so, because the moment

they do the students leave them and go to other schools, and the Board gives them just as good a chance as they do the others.

E. G. COX: I answer by saying, that our requirements are one year, or its equivalent.

CHARLES GIETNER: If any Board lives up to the national requirements, it is the Missouri Board; we live up to the dictates of the Advisory Committee. The Missouri Board is not pulling back, but is shoving forward.

THE CHAIRMAN: We will now hear from Mr. Haussamen.

H. L. HAUSSAMEN: The different recommendations have been acted upon. There is only one recommendation in this report that we would like to have discussed. The recommendation is "Be it hereby resolved, that we request that the Section on Education and Legislation of the American Pharmaceutical Association in joint session with the Faculty and Boards to give consideration to the Prerequisite Provisions. . . ."

The reason for this recommendation is that we have a prerequisite in North Dakota which requires that all candidates for examination must be graduates from a college of pharmacy. This law was passed, and there is a clause in it which intended to provide for reciprocity with other state boards, but this section of the law is not very clear. We secured an opinion from the Attorney-General who said that this certainly was the intent of the law, and we are acting now, really under the opinion of the Attorney-General. We are acting from one session of the Legislature to another until such time when we can change this particular section. I want to bring to your particular attention that the pharmacy boards and colleges of pharmacy should make this section very clear, so that there will be no danger, on account of this particular law, of our being excluded from active membership in the National Association of Boards of Pharmacy.

This is the only recommendation we have up for discussion here. We draw your attention to it so as to make it clear that while we are active members of the Association now, in case another view was taken by a succeeding Attorney-General, we might not be able to retain our membership.

THE CHAIRMAN: The recommendation, as I understand it, might be summarized in a word or two, that it is the sense of the Boards that in framing prerequisite legislation care must be taken not to make it restrictive as far as reciprocity is concerned, and to see that this particular section will not be ambiguous.

H. L. HAUSSAMEN: We want to be active members of the Association. As I understand it, there are only five States in which a college of pharmacy diploma is a prerequisite. In all the others, if the candidates can pass the examination of the Boards, whether they are graduates of a college pharmacy or not, they are accepted.

This makes it difficult for us to get clerks. They say to us, "We would like to go to North Dakota, but we are not graduates of a college of pharmacy." Take also the case of a man who desires to buy a store in North Dakota; his answer is, "I would like to go into business in North Dakota, but I am not a graduate of a college of pharmacy and I could not be registered."

We want to make this clear, that under the ruling of our Attorney-General, even though pharmacists are not graduates of a college of pharmacy, candidates

can be registered in North Dakota now, provided they have been registered prior to 1915.

Recommendation seconded by Geo. C. Diekman.

H. C. CHRISTENSEN: The reason for bringing this matter before this Association really was to refer it to the Voluntary Committee on Model Pharmacy Law. I would like to amend the motion so as to refer it to that Committee, and let them draft and submit a provision that will cover the point under discussion, so that when we have inquiries from different states in regard to prerequisite provisions we can recommend a clause that will be the same in every state.

Forty State Legislatures will meet this coming winter. I know personally of fifteen or sixteen states in which this prerequisite proposition will be brought up and, undoubtedly, legislative committees will be glad to have such a proposal in proper shape, that it would be worded right.

E. L. NEWCOMB: I would like to inquire what the states, that require a man to be a college graduate, do at the present time with regard to reciprocity.

GEO. C. DIEKMAN: I can speak only for New York. I think we differ from other states. We have no reciprocity at all. Everybody must take an examination in New York. We have a clause in the law which in effect says that the State Board may endorse the license of an applicant from another state upon the payment of twenty-five dollars, provided the applicant and the state from which he comes meet all the requirements of the New York State Board. We have so far not had any applicants. The applicant would have to be a college graduate.

H. C. CHRISTENSEN: The only state that you have as an active member of this Association, that has a prerequisite of that kind is North Dakota, and that is why attention was called to the importance of a provision being passed in the different states that will not interfere with reciprocity.

Conditions in New York are a little different from other states. New Jersey, for instance, has just become an Associate Member; they wanted to associate themselves as an Active Member, but on account of the wording of their prerequisite clause, it was impossible for them to do so. That goes to show the importance of getting the right kind of a prerequisite clause.

E. E. FAULKNER: Would a graduate of the University of Michigan, who is registered by the Michigan Board, be granted reciprocity in New York State?

GEO. C. DIEKMAN: I am not prepared to answer that question offhand. The gentleman would have to make application and be passed upon by the State Board. We are waiting for some such applications to be made, but nobody has done so. You send us a man who meets our requirements and have him make application and appear before the Board. That will test the question absolutely.

Motion carried.

THE CHAIRMAN: I wish to announce that the General Committee of the Conference and the Boards did make a very important recommendation, and that was the recommendation on the Fairchild Scholarship. We have just learned that Dr. Alpers, who has charge of the matter, is not well this evening and has retired, and it will have to be brought up at the general session of the Association.

(The Chair briefly outlined the conditions under which the Fairchild Scholarship existed and its award.)

The following papers were then read, discussed and referred to the Publication Committee:

"Privately Owned Schools and Colleges of Pharmacy," by Edward Spease.

"How to Study," by Frederick J. Wulling.

"Coöperation between State Medical and Pharmacy Boards, Drug Commissioners Acting under Their Joint Authority and Supervision," by E. H. Thiesing.

"Practical Drug Experience before Entering College," by Otto Raubenheimer.

THE CHAIRMAN: At the joint session held last Saturday, a very important paper by Professor Jordan was referred to this Section. We will now hear that paper. The title is, "Uniform Legislation."

After discussion of the paper, it was moved by Wilber J. Teeters, that the paper be received, the recommendations adopted, and then referred to the Publication Committee. The motion was seconded, the question called for, and the vote was favorable for adoption and so declared.

The fourth, fifth, sixth, and seventh tentative new provisions,* as presented by the Voluntary Conference, to be part of a Modern Pharmacy Law, were then called for and read by Chairman F. H. Freericks. They follow:

TENTATIVE PROVISIONS FOR MODERN PHARMACY LAW.

SHALL MEMBERS OF THE STATE BOARDS OF PHARMACY BE GRADUATES IN PHARMACY?

Provision No. 4. "The State Board of Pharmacy shall consist of five (5) members, to be nominated by the State Pharmaceutical Association, and to be appointed by the Governor, etc., at least three (3) of whom shall be graduates of a reputable college of pharmacy, and all of whom shall be actively engaged in retail pharmacy, having had at least ten (10) years of practical experience therein, the requirement for college graduation not to be applicable to those who at present are members of the existing State Boards of Pharmacy."

DISCUSSION.

The really important feature of Provision No. 4 would require that at least a majority of the members of all state boards of pharmacy be graduates of a reputable college of pharmacy, excepting in so far as it concerns those who are now members of existing state boards. There is considerable opposition to such a requirement on the ground that it would preclude many of the older and practically experienced pharmacists from being honored by appointment on state boards. It is argued that the practical experience of the older men fully offsets the advantage of college training, and that no distinction ought to be made on that account. On the other hand it is argued that the Provision is to be more applicable for the future, and that the time has come when at least a majority, if not all, of the board members should be college graduates. It is also argued with force that where the Prerequisite clause prevails it seems absurd that college graduates shall be examined by those who lack college training. It seems that there may be other arguments to present for or against the requirement.

SHALL PHARMACY TEACHERS MEET REQUIREMENTS PRESCRIBED BY LAW?

Provision No. 5. "Colleges, Departments and Schools of Pharmacy, to be recognized as such by the State Board of Pharmacy, shall require for graduation a course of study of at least two (2) years, such two-year course to be divided by an interim of at least two months, and to provide for at least twelve hundred (1,200) hours of study. They shall have a Chair in Pharmacy, Chemistry and Materia Medica, each in charge of a Professor, having besides the necessary special learning and training, either an academic or scientific degree, or both, from some reputable institution of learning: Provided, that nothing contained in this Section shall apply to those who when this Act becomes effective are, or have been, teaching in Colleges, Departments or Schools of Pharmacy."

* The first three tentative provisions will be found in last month's issue of the JOURNAL. All of these provisions will be of value to legislative committees in drafting amendments to pharmacy laws.

DISCUSSION.

The really important feature in Provision No. 5, is that it prescribes by law some qualification for those who would teach in our colleges of pharmacy. In a paper presented at the San Francisco Meeting by Dr. Wm. C. Alpers, strong reasons were advanced for holding that there should in some manner be an enforceable requirement to govern those who would teach in our colleges, so that there may be some assurance at least, that those who would teach are so qualified. He urged that all teachers, or at least those who would claim to be professors, be required to have an academic degree acquired by study and work and not by favor. Elsewhere it has been urged that with the more general requirement for the College Prerequisite, schools of pharmacy may be created or may be turned into institutions which seek only to serve the letter of the law and not its spirit in that respect. Admittedly, if schools of pharmacy may exist or may be created to serve only the letter of the law in meeting the college prerequisite, then the very aim of the prerequisite may be undone, if there be not also well defined requirements to govern the teaching staff of our colleges. It is objected, that any legal requirement of the nature referred to is unnecessary on the ground that all teaching institutions will fail which do not have a fit teaching staff; that those entrusted with the conduct of our colleges and schools of pharmacy may be relied upon to secure fit and qualified teachers in order to establish or maintain their reputation. It may be admitted that heretofore colleges and schools of pharmacy have been established because of an altruistic aim, but the vital question seems to be whether we may expect such altruistic aim to continue and generally prevail.

RECIPROCAL REGISTRATION.

Provision No. 6. "The State Board of Pharmacy may in its discretion grant Certificates of Registration to persons who furnish proof that they have been registered by examination in some other state, and that they are of good moral character. Provided, that such other state in its examination requires the same general degree of fitness as is required by examination in this state, and that the applicant qualifies in all other respects as is required for registration by examination within this state, and provided also, that such other state or states, in like manner, grant Reciprocal Registration to pharmacists and assistant pharmacists of this state. Applicants to the State Board of Pharmacy for Reciprocal Registration shall defray all necessary expense for making an examination into their character and general reputation, as well as pharmaceutical standing in the state where they formerly resided, such expense of investigation not to exceed the sum of ten (10) dollars, and for the purpose of such investigation and report thereon, the State Board of Pharmacy may secure the service of individuals or associations who are engaged in the work of compiling such information at an expense not to exceed ten (10) dollars in each separate case. In addition, an application for Reciprocal Registration shall be accompanied by an original registration fee of \$10.00 which shall be refunded in case registration is not granted."

DISCUSSION.

It has been claimed with much show of sound reason that Reciprocal Registration should be provided for, if the applicant to the state board, having the higher requirements, can prove that he, in his particular case, meets such higher requirements, even though they do not prevail generally in the state where he has first become registered. This has to do principally with such states where the College Prerequisite is now a part of the law as distinguished from states in which the College Prerequisite is not now part of the law. The contention is made that in states where the College Prerequisite does not prevail there are very many graduates of recognized colleges. It is contended further, that in many of such states the examination requirements are fully equal to those in which the College Prerequisite exists, and consequently the examination requirement being equal, and the College Prerequisite having been met by the particular applicant, that he should have the right to Reciprocal Registration. The other features of Provision No. 6, have to do with uniformity and matters of detail regarding which there may not be much difference of opinion. It also seeks to place the activities of the National Association of Boards of Pharmacy on a sound legal basis in so far as they concern Reciprocal Registration and its support. In connection with Reciprocal Registration the thought is also advanced, that careful provision be made to safeguard the right to Reciprocal Registration, so that a late adoption of the College Prerequisite may not be retroactive in its effect upon pharmacists of other states who theretofore

in their own states met all of the requirements for registration, and who desiring Reciprocal Registration might otherwise be denied, because of the late enactment of the College Prerequisite in the state where they are seeking Reciprocal Registration.

Broadly speaking, the sixth Provision raises the question, whether each individual case should be considered to determine the right to Reciprocal Registration, or whether only the requirements of the respective state boards should govern. The question is also raised, whether the adoption of the College Prerequisite in connection with Reciprocal Registration should have an effect, which in its nature is retroactive.

AN ASSOCIATION OF PHARMACY STATE BOARD MEMBERS AND A BUREAU MAINTAINED GENERALLY BY STATE BOARDS OF PHARMACY.

Provision No. 7. "In order that the State Board of Pharmacy may be informed, and properly determine the status of the Boards of Pharmacy of other States desiring Reciprocal Registration, and that it may be generally advised regarding progress in pharmacy throughout the country, the said Board shall annually select one of its members, who shall meet with like representatives of such other State Boards of Pharmacy, as may be arranged, for the purpose of discussing and determining the degree of fitness required by such Boards, and the general advancement made in pharmacy. The expense of such representative shall be paid and allowed as are all other lawful expenditures of the members of the Board of Pharmacy. At meetings arranged for between the representatives of this State Board of Pharmacy with the representatives of other State Boards of Pharmacy desiring Reciprocal Registration there may be adopted uniform regulations and requirements which are deemed desirable by each of said representatives for their respective States to govern Reciprocal Registration, but such rules and regulations shall not be construed as based upon agreement by an official of this State with officials of other States, and they shall be binding only, if adopted by the State Board of Pharmacy as its own rules and regulations, and then only to govern within this State as the result of independent decision on the part of the State Board of Pharmacy, without any agreement by or with other State Boards of Pharmacy. The representative of the State Board of Pharmacy as such shall not enter into or join in the formation of any association depending upon agreement between the officials of this State with the officials of other States, but this shall not be construed to prevent such representative in his individual capacity from joining or being a member of an association which may be constituted of the representatives of State Boards of Pharmacy, also acting in their individual capacity. Any association so existing which is engaged in the compilation and study of the work of State Boards of Pharmacy, and which has for its object the general advancement of pharmacy and the keeping of records pertaining to the Reciprocal Registration of pharmacists, may at the discretion of the State Board of Pharmacy be given such information as it possesses pertaining to such aims and objects. The State Board of Pharmacy at an expense not to exceed one hundred (\$100) dollars annually may subscribe for and secure the services of an association, engaged in the compilation of pharmaceutical information and progress, especially adapted for securing the greatest efficiency in the work of said Board."

DISCUSSION.

One of the serious difficulties which has confronted an organization of the state boards of pharmacy is found in the constitutional restrictions which must govern them. Article 1, Section 10, Paragraph 3, of the Constitution of the United States provides that: "No State shall, without the consent of Congress, enter into any Agreement or Compact with another State." A strict interpretation of this provision in the Federal Constitution precludes actual agreement between the several states or between the officials of the several states acting in their official capacity with a view of in any manner binding their respective states. Certain joint actions by officials of the several states have from time to time been held not to be based upon agreement between such states, so as to be in violation of the Federal clause, but it does not appear that actual agreement which would be alike binding on the part of states who might enter into it would be upheld. In so far as the matter concerns joint activities of our state boards of pharmacy, it is involved also with the receipt and distribution of funds necessary in connection with joint activity. It will be noted that Provision No. 7 while carefully avoiding what might

be construed as an agreement between the several states, or between the state boards of the several states acting for them, respectively, yet provides the means for active coöperation between them, and legalizes in that connection contributions and expenditures to serve their common purpose. It would remove from the field of correct coöperation between our state boards of pharmacy such doubts as now exist with reference to the legality of action and authority to act. The advisability of having a provision in our several state pharmacy laws, such as is contemplated by Provision No. 7, must rest in the need for legal and systematic coöperation between our several state boards. It presents for decision also, whether it is advisable to establish and maintain a Central Bureau through which the several boards would act in their relationship with each other, and which would be supported by them respectively, so as to permit its operation in a sound business-like manner. The question is, whether the existing National Association of State Boards of Pharmacy is so equipped as to properly serve its intended purpose, or whether it should be placed upon a more solid foundation with assured support, authorized by law in the several states.

JOSEPH P. REMINGTON: I move that this report be received and take the usual course, and that Chairman Freericks and the Committee be extended the thanks of this Section. Motion seconded.

H. C. CHRISTENSEN: These provisions have been given much thought by the individual members of the Boards, as well as by the Association as a whole and we are heartily in accord with the recommendations made. We realize that the National Association of Boards of Pharmacy, as constituted at the present time, can be improved, and we are glad to have the subject brought up. It is unfortunate that we are not able to discuss these provisions further. This is a legislative year, and I was in hopes we could get some of these recommendations in shape to answer some of the inquiries we are bound to have from different states. I hope something will be done, in spite of the fact that we cannot discuss the propositions, so that we may have the information to convey to those who will ask for it.

Motion carried.

A motion to adjourn was seconded and carried.

COMPULSORY HEALTH INSURANCE.

BY BERNARD FANTUS, M.D.

I note with regret the unfriendly attitude displayed by an editorial in the November issue of the JOURNAL toward the Health Insurance Bill drafted by the American Association for Labor Legislation, a movement which is in line with the latest developments in the care of the workingman's health in Germany, England, and in other countries of Europe. To characterize such legislation as charity is as erroneous, as to apply that designation to accident insurance laws or to compulsory education. Public Health Insurance could lead to a neglect of the insured only, if it is grossly mismanaged. It does not have that tendency in Europe, as far as I know. The neglect of human health and the lack of care of the sick, that exists at present, makes human life and health appear extremely cheap. We protect all other kinds of property by law upon law; we have so far done next to nothing toward protecting our most precious possession—namely, health. It is one of the boasts of the modern hygienist that health can be bought; and, to a certain extent, this is true. Sufficiently comprehensive legislation of the kind contemplated could not fail to take cognizance of the prophylaxis of disease. Human society is responsible for all the contagious and infectious diseases, for

all the occupational diseases, for many forms of intoxication and much of the results of physical violence, not to mention the injuries to health wrought by poverty and destitution. If society is responsible for all these things—and I believe it can be shown that it is—then it is the duty of society to apply the remedy. Health Insurance is a step in that direction. Nor is taking care of the sick altogether altruistic, for the sick are a constant menace to the well. To oppose this because it would be bad for our business is the lowest sort of ethics—the ethics of the jungle. Society does not exist that doctors and druggists may fatten on it. Doctors and druggists exist for the good of society. Health insurance does not enable society to dispense with our services, if it did, all the better for health insurance. It may lessen the income of our professions—and again I say so much the better for health insurance for it will lighten to an incalculably greater degree the burden that must be borne by shoulders too weak to bear it—the burden that is now borne by the sick poor.

SULPHO-TITANIC REAGENT FOR ALKALOIDS HAVING A PHENOLIC NUCLEUS.

That titanic anhydride, in various combinations, gives intense color reactions with phenolic substances, has been known for some years; Leuher and Crawford have published a method for the colorimetric determination of titanium based on the reaction it affords with thymol. This has suggested to the author to employ titanic anhydride for the identification of alkaloids containing a phenolic group. He has prepared a reagent for this purpose by heating coarse particles of rutile, native titanic anhydride, with strong sulphuric acid, at near the boiling point of the latter, for several hours. Only a very small amount of the rutile is dissolved. After cooling, the liquid, decanted from the undissolved rutile, furnishes the reagent, which is absolutely permanent. A few hundredths of a milligramme of an alkaloid, triturated in a porcelain capsule with a drop or two of this liquid, will yield a characteristic and often distinctive color reaction. More pronounced colors may obviously be obtained by adding a minute quantity of an alkaloid, or its salt, to two or three mls of the reagent and shaking. Under these conditions morphine gives a blood-red color; apomorphine, a reddish violet; oxydinorphine, a wine-red, intermediate between the above two tints; cupreine, an orange shade, resembling that of alkali bichromate; hordenine, deep orange; tyrosine, a color similar to that given by hordenine; adrenaline, a reddish brown color. Alkaloids devoid of a phenolic nucleus give no reaction. The reagent also forms a sensitive test for the presence of hydrogen peroxide.—G. Denigès, *Annales Chim. Analytic*, 1916, 21, 213; through *Pharmaceutical Journal*.

SECTION ON HISTORICAL PHARMACY, AMERICAN PHARMACEUTICAL ASSOCIATION

MINUTES.

The meeting of the Historical Section of the American Pharmaceutical Association was called to order at 9.40 A.M., September 8, 1916, in Hotel Chalfonte by Chairman Charles Holzhauer, who spoke in part as follows: There seems to have been some slip up last year regarding the election of the chairman of the Section. I was not at the meeting of the Section last year, but when I got home, I found that I had been made chairman of it. I wanted to resign, but was persuaded to keep the office and do the best I could with the assistance of the secretary. He agreed to take care of everything, and make a report to the Section, but he has married and is now on his wedding trip. We have no report from him, but we have a number of papers that have been contributed. So far as I am individually concerned, my contribution in the matter of historical pharmacy is confined to a very small compass.

When I went into business, I do not think that there was such a thing as a Pharmacopoeia in the whole town, or that anyone in the drug trade knew anything about it. The Dispensary was the only thing we had to go by. Trade conditions were totally different from what they are to-day. I had the job of going downstairs and getting potash, which we bought by the tierce; and the boy had to break it up. I got the potash in my hair, on my face and inside my collar; and my hands had the skin off all the time. That was before we had concentrated lye, soda and potash put up in tin cans.

We are passing through another period now. We are seeing a change in the drug business; and what that change will result in, no one knows. Old timers, like myself, find themselves out of touch with present conditions, not only in the matter of profits, but also in the way of doing things. In my day, everything was made in the store. We had no pharmaceutical manufacturing houses, and tinctures were the great things used in prescriptions. It was before the days of fluidextracts; and I sometimes wonder whether it would not be a good thing for us to go back to the use of tinctures, much more than we are using them to-day. The repeats in prescriptions are those that partake of the old style of prescribing, and the best evidence of a prescription's answering the purpose for which it was given is having the patient come back to have it renewed repeatedly.

I remember that in those days malaria was rampant. We have no chills and fever now. We used to put up scores of prescriptions for it then. Cholera infantum, during the summer, was exceedingly prevalent. Mothers would bring their infants and wait for the prescription to be put up; we sometimes had to hurry for fear the child would die before we got the prescription ready.

The time is not **distant when** the men in the drug-business will be divided into two classes, the pharmacists and the druggists, in the United States, as in Europe. The great effort that has been made in recent years to develop the professional side of pharmacy will bear fruit and result in an ethical pharmacy. The commercial side will be taken care of by those that run the drug store.

Mr. F. T. Gordon, of Philadelphia, has kindly consented to act as secretary in place of Mr. G. G. Marshall.

THE CHAIRMAN: The Historian's Report is next in order.

HISTORIAN'S REPORT.

The work of the Historian is largely that of curator. Since the last meeting of the Association, the office of the JOURNAL has been moved to Philadelphia and is now located in the rooms of the Philadelphia Drug Exchange in the Bourse Building.

Temporarily and perhaps for several years there is here ample room for contributions that are made to the Historical Section. The building is practically fire-proof and a watchman is constantly on duty. Under these circumstances the contributions made are as safe from fire as is possible without keeping them in a vault.

The Historian has in his office a large filing case for photographs and records, fifteen sectional bookcases and one sheet-iron cabinet, which he is glad to utilize for the Historical Section.

On behalf of the Association request has been made for space in the Historical Society Building of Philadelphia and also in the Ridgway Library Building on South Broad Street. President Howard B. French, of the Philadelphia Chamber of Commerce, has given the assurance and authorized the Historian to say to the Association that space will be found for 1200 volumes or more, if necessary. So with these accommodations the Historian is now in position to say, that whatever may be contributed will be safely filed and convenient for reference. While it would, perhaps, be better, if all this matter could be kept in the JOURNAL office, the library accommodations afforded will be safe and convenient, as well as sufficient for present needs.

Treasurer H. M. Whelpley has sent out slips, as enclosures in his correspondence, asking that members send photographs and brief biographical sketches to the Historian. Comparatively few have complied; some have sent photographs but no sketch. The list up to August 1, 1916, follows; titles are omitted:

PHOTOGRAPHS AND SKETCHES.

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| Albert Ackerman, Chicago. | C. H. Jongejan, Grand Rapids, Mich. |
| Franklin M. Apple, Philadelphia. | Sophus Joergensen, La Conner, Wash. |
| Walter D. Adams, Forney, Texas. | Frederick B. Kilmer, New Brunswick, N. J. |
| William C. Alpers, Cleveland, Ohio. | Julius A. Koch, Pittsburgh, Pa. |
| H. V. Army, New York. | J. M. Lindley, Des Moines, Ia. |
| Francisco Varada Adan, Camagiiey, Cuba. | P. H. Lindley, Havana, Kans. |
| Wilhelm Bodemann, Chicago. | L. A. Rudolph S. Lundgren, Youngstown, O. |
| Irwin Betzel, Corvallis, Ore. | Albert B. Lyons, Detroit, Mich. |
| P. W. Babcock, Lewiston, Me. | N. H. Martin, New Castle-on-Tyne, England. |
| Joseph Caruso, Brooklyn, N. Y. | Ferd. A. Mueller, Indianapolis, Ind. |
| Antonio Caparo y Fernandez, Cienfuegos, Cuba. | John C. Otis, Cincinnati, Ohio. |
| H. C. Christensen, Chicago. | August F. Pence, Cleveland, Ohio. |
| J. S. Chism, Wichita, Kans. | Mrs. Bertha Leon De Groffe Peacock, Phila. |
| Theodore Campbell, Philadelphia. | Josiah Comegys Peacock, Philadelphia. |
| C. Lewis Diehl, Louisville, Ky. | Frank Richardson, Cambridge, N. Y. |
| William F. Dedrick, Kingston, N. Y. | Mrs. Josie Wanous Stuart, Minneapolis, Minn. |
| Aaron L. Feller, New York. | Louis Schulze, Baltimore, Md. |
| Henry M. Faser, Oxford, Miss. | Samuel P. Sadtler, Philadelphia. |
| S. W. Fairchild, New York. | Frank C. Stutzlen, Elizabeth, N. J. |
| C. E. Foote, Jackson, Mich. | William J. Schieffelin, New York, N. Y. |
| H. C. Groves, Addesleigh, St. Albans, L. I. | J. Hungerford Smith, Rochester, N. Y. |
| William Horlick, Racine, Wis. | Israel Schwartz, New York, N. Y. |
| David Hooper, President British Pharmaceutical Conference. | Otto A. Wall, St. Louis, Mo. |
| John F. Hancock, Baltimore, Md. | W. H. Wyszyski, Chicago. |
| Miss Alice Henkel, Washington, D. C. | Homer C. Washburn, Boulder, Col. |
| Gustave Horstmann, Mount Vernon, N. Y. | Joseph Weinstein, New York, N. Y. |
| Bolivar Jurado, Ancon, C. Z. | E. E. Wyckoff, Brooklyn, N. Y. |
| | Frederick J. Wulling, Minneapolis, Minn. |

PHOTOGRAPHS.

Jose P. Alacan, Havana, Cuba.
Francisco Faquechel, Havana, Cuba.
C. S. Alexander, Weatherford, Texas.
C. W. Ballard, New York, N. Y.
Abraham Blank, New York, N. Y.
Frank R. Eldred, Indianapolis.
Robert A. Lehmann, New York, N. Y.

Alexander B. J. Moore, Montreal.
Joseph L. Mayer, New York.
E. L. Newcomb, Minneapolis, Minn.
Harold Neretin, New York, N. Y.
Otto Raubenheimer, Brooklyn, N. Y.
L. E. Sayre, Lawrence, Kans.
Mrs. Minnie M. Whitney, Kansas City, Mo.

The object of having these sketches and photographs need not be further explained than to say, that such records should be on file for the use of the Association. Not only do occasions arise when some of these are needed, but future generations will be interested in them.

We should have a collection of the badges used at the Annual Meetings of the Association, as well as those used by State Associations and related organizations. Also the programs of the meetings and functions, part of the Annual Conventions, should be obtained for the files.

Up to this year, it was impossible to have these collections for reference but now we can do so, therefore more contributions should be made from now on.

Last year the recommendation was adopted that an effort should be made to have a display of photographs of the preceding meetings. This will be impracticable, as in the rooms of the headquarters hotel permission cannot be obtained to tack these on the walls, and to have them rolled up and distributed will create confusion and interfere with the work of the Section, and possibly cause a loss.

It would be a splendid idea, whenever the Association meets in a City to request the local members to have an historical exhibit of pharmacy. This was undertaken this year by the Philadelphia College of Pharmacy, for the interest of the members who visited there, going from or to the Convention. The Association of the State where the Annual Meeting is held might be interested in fitting out a room in the headquarters. In that way we would become acquainted with the past and present of pharmacy in the respective States.

Perhaps of special interest, a photograph of Dr. Hermann Hager is exhibited and is a subject of the program of this Section. We have also a document, the property of the University of Wisconsin, evidencing a concession to an apothecary, issued in 1796, by the officers of the Bishopric of Eichstaedt. Dr H. M. Whelpley has contributed numerous clippings of historical interest, and also a number of photographs and mementos of previous meetings; some are here on display. We have a photograph of a water-color painting of the Blair Pharmacy, Philadelphia, established in 1828. A coöperative interest has been displayed by Mr. Seward Williams, of Chicago, in publishing an interesting booklet entitled "From Coast to Coast." The object of this publication was to have a record of the journey of the Association members to the "far west," and the present meeting was not forgotten, so the booklet is indeed well named.

The interest in the Historical Section is growing, as evidenced by the interesting program, and now with the opportunity of preserving historical matter, the work of the Section will increase in value and importance.

It is a pleasure to be of service and your instructions will be carried out to the best of my ability.

Respectfully submitted,

E. G. EBERLE.

On motion of Mr. Lemberger, the report of the Historian was received and referred to the Committee on Publication. Mr. Lemberger also made a motion that the Section approve of the recommendation of the Historian that the officers of the Section communicate with local branches and state associations to arrange for an exhibit of historical material at the annual meeting of the A. Ph. A. and that the Local Secretary at such place of meeting be notified of this request; and that a copy of the part of the Historian's report containing this recommendation be sent to the coming Local Secretary of the place at which the next annual meeting is to be held.

The motion of Mr. Lemberger was seconded and carried.

The next item on the program was the nomination of officers for the ensuing year. Mr. A. L. DuBois, of Catskill, New York, was nominated by Mr. Thos. F. Main, of New York City, for the office of Chairman; L. E. Sayre, of Lawrence, Kans., was nominated for Secretary; E. G. Eberle, of Philadelphia, was nominated as Historian. On motion of C. A. Mayo, of New York City, the nominations were closed.

Dr. H. M. Whelpley, of St. Louis, made a motion that the Historian be instructed to correspond with the secretaries of the State Associations, urging them to supply him with their annual badges and programs, and with such other material as might prove of historical interest. The motion was seconded and carried.

THE OFFICIAL BUTTON AND SEAL.

Dr. Whelpley, feeling that the minutes could not be too replete with historical records, stated that the official badge of the Association is a button, the result of an idea originated by Mr. G. M. Beringer, Sr., of Camden, N. J. Mr. Beringer explained that the acting secretary, Mr. Gordon, had brought it to his attention. A series of designs were submitted, and the one in use selected. Mr. Gordon then added the information, that he had made a motion at the Nashville meeting that a button be adopted containing the coat of arms or seal of the Association. Mr. Beringer, Mr. England and the speaker had been appointed a committee to work up the idea, with the result that the present button was recommended. The matter was first acted on by the House of Delegates and then brought before the General Session at the Nashville meeting, the button being officially adopted. Mr. Beringer added that the first official appearance of the button was at the Nashville session, where it was used by him, while President, as a seal for his papers.

PRESENTATION OF HERMANN HAGER PICTURE.

The next matter on the program was the presentation of a life-sized picture of Hermann Hager, dedicated by the New York Deutscher Apotheker Verein, by Otto Raubenheimer, of Brooklyn, who spoke as follows:

When the New York Deutscher Apotheker Verein decided to present to each college and each association in the United States, that had made Doctor Hager an honorary member, a copy of this picture, the mission of making the presentation was given to me. It has already been fulfilled in connection with the Philadelphia College of Pharmacy, the Massachusetts College of Pharmacy and the Chicago College of Pharmacy, and is to be fulfilled to-day in connection with this Association by presenting a photograph of Hager to the Historical Section of the American Pharmaceutical Association, which was good enough to elect Hager as an honorary member in 1868.

The biography of Hager¹ has been fully published, and the publications are obtainable, so we do not need to go into details. I have no doubt that this photograph, if properly displayed, will instil the younger generation, and also the pharmacists in general, with more love for their profession, and likewise give them an idea of what can be done in pharmacy, especially as Hager educated himself, passed the State Board examination without having had any college training, and contributed more to the literature of pharmacy than perhaps any other man that

¹ See p. 2, January issue, JOUR. A. PH. A., 1916.

has ever lived. He wrote three volumes that are still considered the best handbook on pharmacy that the world has.

Therefore, I take pleasure in presenting this photograph to the Historical Section of the American Pharmaceutical Association; and I have no doubt that the Historian will take care of it and preserve it in his office, and later in the building of the Association.

A motion was made by C. A. Mayo that the portrait be accepted and preserved, and that the thanks of the Association be sent to the donor. The motion was seconded and carried. The Chairman, on behalf of the Association, then accepted the photograph and thanked the donors.

The following papers were then read, some given only in abstract; the discussions were limited on account of the lengthy program and only one session being provided. They were referred to the Publication Committee:

Reminiscences of an Old New York Pharmacist, by A. L. DuBois.

The Chemical Laboratory: Side Lights in Its Making, by Frederick E. Niece.

Evolution of the Membership Certificate of the American Pharmaceutical Association, with exhibit of the earliest type of the Certificate, by John F. Hancock.

History of the New Jersey Pharmaceutical Association, by E. A. Sayre.

Some Exponents of Pharmacy, by John F. Patton.

Pharmacy in New Jersey in the Sixties, as Recalled by an Apprentice, by L. E. Sayre.

Early Experience in the Drug Trade, by Joseph L. Lemberger.

History of Mercury, by Otto Raubenheimer.

Ten Years of New Jersey Pharmaceutical Association, by J. F. Llewellyn.

Pharmacy and Medicine of Sir Walter Scott, by Arthur Linton.

Happenings in Pharmacy a Century Ago, by Otto Raubenheimer.

Historical Fragments, by Edward Kremers.

Reminiscentiae, by Thos. D. McElhenie.

A History of the Old Firm of Hance Bros. & White, by A. M. Hance.

The Blair Pharmacy, Established 1828, by Robert P. Fischelis and Henry C. Blair.

Speaking for the motion to refer the paper by A. L. DuBois to the Publication Committee, Mr. C. A. Mayo moved a vote of thanks to Mr. DuBois for having set such a good example to those just beginning their careers, and having shown what a stretch of time an active man's career can cover.

In seconding the motion Dr. William C. Anderson called attention that Mr. DuBois had become a Life Member of the American Pharmaceutical Association by virtue of thirty-seven years' membership in it.

Mr. W. L. Cliffe, in speaking on the motion to refer Mr. J. L. Lemberger's paper to the Publication Committee, referred to the long connection of the author and his valuable services to both the American Pharmaceutical Association and Pennsylvania Pharmaceutical Association.

The paper by Dr. Edward Kremers was reviewed in abstract by E. G. Eberle, and the parchment of a concession to Apothecary Ignaz Biechele was exhibited.²

On motion of Mr. Hancock, duly seconded, the Secretary was instructed to cast the ballot of the Section for the unanimous election of the officers nominated, who were as follows: *Chairman*, A. L. DuBois, Catskill, N. Y.; *Secretary*, L. E. Sayre, Lawrence, Kan.; *Historian*, E. G. Eberle, Philadelphia.

Adjourned at 2.30.

² See p. 1243, November issue of the JOURNAL, 1916.

THE A. P. H. A. MEMBERSHIP.

BY WILLIAM MITTELBAUGH

According to the list of members published in the 1904 Year Book and revised to April 1, 1916, we now have 2490, distributed throughout the 48 states, the territory of Alaska, the islands of Cuba, Porto Rico, Philippine Islands, Dominion of Canada and Europe. Over 50 percent of the membership reside in 38 of the largest cities. Compared with a similar tabulation made in 1904 the information to be obtained is interesting and of some value to the Membership Committee in its work.

	1904	1916	
Alabama.....	5	17	
Alaska.....	0	3	
Arizona.....	1	4	
Arkansas.....	18	24	
California.....	38	94	(San Francisco and Los Angeles 44)
Colorado.....	13	55	(Denver 33)
Columbia Dist.....	36	34	(Washington City 33)
Connecticut.....	30	18	
Delaware.....	2	7	
Florida.....	25	21	
Georgia.....	36	18	
Hawaiian Islands.....	2	1	
Idaho.....	1	6	
Illinois.....	95	179	(Chicago 119)
Indiana.....	36	78	(Indianapolis 25)
Iowa.....	48	56	
Kansas.....	15	25	
Kentucky.....	29	39	(Louisville 17)
Louisiana.....	28	26	(New Orleans 19)
Maine.....	25	28	
Maryland.....	65	73	(Baltimore 56)
Massachusetts.....	84	140	(Boston and suburbs 60)
Michigan.....	46	106	(Detroit 97)
Minnesota.....	28	47	(Minneapolis and St. Paul 35)
Mississippi.....	8	9	
Missouri.....	129	116	(St. Louis and Kansas City 92)
Montana.....	3	17	
Nebraska.....	16	42	(Omaha 15)
Nevada.....	1	2	
New Hampshire.....	10	6	
New Jersey.....	61	92	(Newark and Jersey City 21)
New Mexico.....	2	6	
New York.....	165	299	(New York, Brooklyn and Buffalo 216)
North Carolina.....	13	17	
North Dakota.....	4	8	
Ohio.....	88	137	(Cincinnati, Cleveland and Columbus 102)
Oklahoma.....	9	13	
Oregon.....	5	18	(Portland 8)
Pennsylvania.....	147	229	(Philadelphia and Pittsburgh 151)
Philippine Islands.....	0	6	
Porto Rico.....	0	2	
Rhode Island.....	16	16	(Providence 12)
South Carolina.....	7	5	

	1904	1916	
South Dakota.....	8	26	
Tennessee.....	10	49	(Nashville 22)
Texas.....	20	60	(Dallas, Houston and San Antonio 16)
Utah.....	1	8	
Vermont.....	9	15	
Virginia.....	16	32	(Richmond 9)
Washington.....	10	38	(Seattle 18)
West Virginia.....	1	26	(Morgantown 11)
Wisconsin.....	23	37	(Madison and Milwaukee 21)
Wyoming.....	0	2	
Canada.....	20	17	
Cuba.....	0	29	(Havana 21)
Europe.....	11	12	

Grouping the states we find from the foregoing tables, our present membership located as follows:

734 in the New York group (N. Y., Pa., N. J., Md., Del., and D. C.).
 537 in the Lake group (Ill., Ind., O., Mich., and Wisc.).
 329 in the South-West group (Mo., Kan., Cal., Ark., Okla., La., Tex., Ariz., and N. M.).
 233 in the Southern group (W. Va., Va., N. C., S. C., Ga., Fla., Ala., Miss., Ky., and Tenn.).
 223 in the New England group (Me., N. H., Vt., Mass., Conn., and R. I.).
 198 in the North-Western group (Minn., Mont., N. D., S. D., Wy., Ia., and Neb.).
 167 in the Pacific group (Wash., Ore., Idaho, Nev., Utah, and California).
 69 (the remainder) in foreign countries.

Seven states—New York, Pennsylvania, Illinois, Massachusetts, Ohio, Missouri, and Michigan—have 1206 or about one-half the entire membership. New York and Pennsylvania alone have 528 or more than one-fifth. Eleven of the states each have less than 10 members. In the states bordering the South Atlantic the membership has fallen off in the 12 years.

It is clearly evident that wherever meetings were held, the members living in the immediate surroundings stayed with the Association to a much greater extent, than in territory distant from meetings. This is clearly shown by Missouri's present enrollment. It is at this time 116. In 1905 or immediately after the Kansas City meeting we had 117. Previous to the St. Louis meeting (1901) we had only 51. Other states having a large membership show a like condition. Now if the Membership Committee was placed on a commercial working basis, as it was about 15 years ago, and the Committee given authority to spend sufficient funds to cover its legitimate expenses, I see no reason why the membership should not be doubled in the next 5 or 6 years.

In these days when a commercial value is placed upon everything, membership in our Association is also looked upon, more or less, as an investment, or business proposition, and we must show that it is worth the price.

SECTION ON COMMERCIAL INTERESTS, AMERICAN PHARMACEUTICAL ASSOCIATION

HISTORY OF SUBSTITUTES AND SUBSTITUTION.*

BY OTTO RAUBENHEIMER.

Everything has its history, even substitution! Most writers trace the origin to Claudius Galenus of Pergamos and later of Rome. However, Dr. Felix von Oefe, the celebrated Assyriologist and Egyptologist, now in New York City, and also a member of the A. Ph. A., has made further researches, which are quoted by Schelenz in *Geschichte der Pharmazie* and by Tschirch in his *Handbook der Pharmakognosie*. Oefe was also kind enough to give me the additional information that records of substitutes and substitution existed in old Assyria, namely, in the library of King Sardanapalus, who reigned from 668 to 626 B. C. Ashurbanipal, which is the Assyrian name, the warrior King, destroyed innumerable cities of high civilization in Babylonia, Elam and other countries. He tried to make Nineveh the center of the civilized world, especially by one of his aims, namely, the creation of a large library of copies of older texts, collected in the destroyed cities. The principal medical and pharmaceutical texts of Sardanapalus' library were copies from the old city Nippur, and as ruins Niffer, which was excavated by the University of Pennsylvania. About twenty thousand of these clay tablets from the library of Nineveh are preserved in the British Museum, and more than one thousand contain medical and pharmaceutical matter. The Niffer tablets now at Philadelphia show that the Assyrian King had not left many of the original scientific texts at Nippur.

Dr. Oefe discovered that some tablets contain a special form of tabulation, namely, in two columns. **The drugs mentioned in the left column can be substituted by drugs in the right column.** The drugs are not mentioned by name, they are stated as parts of the body of a god or his devoted animal. A group of alternating substitutes could have the same name of the god or animal.

Dr. Felix von Oefe deserves credit for the correct translation and explanation of the old medical papyri, having first brought this subject before the Section of History of Medicine at the meeting of the German Naturalists at Duesseldorf in 1898. Inasmuch as several plants of almost identical properties are dedicated and named after the same deity, a correct interpretation is not an easy task. For instance, *Succus Anethi recenti expressus* was named *Blood of Ibis* and *Semina Anethi* were called *Hairs of Kynocephalus*. Ibis and Kynocephalus were both animals devoted to Thoth, i. e., the Egyptian Hermes. Artemesia was called *Heart of Bubastis* and *Blood of Hephaestus*.

Such synonyms were undoubtedly originated by the priest-physicians in Egypt to conceal the identity of the drug from the laity. Squill grew in the vicinity of Pelusium, where dropsy was endemic. The evil god Typhon was said to live near by in a swamp, consequently, squill received the synonym *Eye of Typhon*.

* This paper, the one following on "*Ersatz-Præparate*," by H. Engelhardt, and "*Quid pro quo* in U. S. P. IX," by Otto Raubenheimer, constituted part of a Symposium on Substitution, prepared for the Section on Commercial Interests, A. Ph. A., Atlantic City meeting, 1916.

That even a synonym-lexicon existed as early at 200 B. C. is proven by the publication of a Greek papyrus by Leemann and Dieterich in 1888. The *Papyrus Brughsh* dating to 1500 B. C. also contains a small synonym-lexicon.

Dioscorides (abt. 50 A. D.) in his *materia medica* also gives a large number of synonyms.

In those early days substitution was frequently demanded by the patients themselves, as can be seen from the following incident told in Friedlaender's *Roman Life and Manners*:

"As the opinion was that the dearest medicines were the most efficacious, and the rich, therefore, would have nothing cheap, the apothecary business was extremely profitable to the practitioner. One rich man, whose slave Galen had cured of a dangerous tumor, asked for the recipe, saw that its ingredients were cheap, and demanded something not fit for beggars. Galen then taught him a more expensive recipe."

Another example of substitution is the following: Precious stones were largely used in medicine in ancient times. For the plutocrats the most expensive were used, as, for instance, the emerald as a green stone. For the middle class a less precious stone was taken, probably some form of chrysoprase, and the poor received ordinary malachite, or the still cheaper green Egyptian porcelain. Here is still another example: Sapphire was precious and expensive, *Lapis Lazuli* was less expensive and Babylonian Blue Glass was cheap.

(These different qualities in medicine according to circumstances of three milleniums ago have survived up to now in the expressions *optima*, the best; *vera*, the true; *communis*, the ordinary; and *canina*, the bad (good for the dogs), adulterated and useless.)

Claudius Galenos of Pergamos, Asia Minor (130-200), the celebrated physician at Rome, prepared a list of *Antemballomena* or substitute drugs. He was called to a patient on the death-bed and wanted to administer *Semen Acanthii*. Unable to get same in a hurry, he took in place *Semen Lychnidis*. Thereupon, his colleagues in Rome asked him to prepare a list of substitute drugs, which is one of the oldest and most complete records of substitution in the Greek language.

A later legend tells that Galenos found older lists of substitutes and copied same. The later physicians believed these lists to be compiled by Galenos.

The works of Galen remained the undisputed medical authority for about 1400 years until a young Flemish physician, Andreas Vesalius (1514-1564), discovered grave mistakes in Galen's anatomy and until Paracelsus (1493-1541) became the iconoclast or image breaker of the old medical school.

The *Antidotarium* of Nicolas Praepositus, the director of the celebrated medical school at Salerno about 1100, contained a *Tractus quid pro quo*, consisting of a list of substitutes, arranged alphabetically.

Johannes Actuarius, court physician at Constantinople at the end of the 13th century, wrote a *Quid pro quo* as an appendix to his works.

The *Ricettario Fiorentino* (1498), one of the early pharmacopoeias, contained a *Tractus quid pro quo*.

The first official pharmacopoeia in Germany, namely the *Dispensatorium* of Valerius Cordus, published in Nuremberg in 1546, contains an appendix, *De Succedaneis quid pro quo*, in which the following are some of the substitutes:

Bitter Almond	replaced by Wormwood
Colocynth	replaced by Ricinus (seed)
Ginger	replaced by Pyrethrum (root)
Zedoary	replaced by Aristolochia

These examples no doubt prove that the old books on medicine and the dispensaries contained regular lists of substitutes. Why? The answer is threefold.

(1) As a matter of convenience for physician, pharmacist and patient.

(2) As a matter of necessity.

(3) Because frequently certain drugs were unobtainable, as commerce to the Orient, which was the source of most drugs, became interrupted. Do not the very same conditions exist to-day?)

So much for the origin of substitutes and substitution. Now as to the step taken against substitution. The Edict of Emperor Frederic II in 1227, which can be justly considered the first pure food and drug law, and which separated pharmacy and medicine, also contains a provision that the *stationarii* (because they were stationed in monasteries) and the *confectionarii* (the forerunners of our confectioners) must prepare the medicines according to the prescription of formula and must not cheat by the use of *Quid pro quo*. This law forbade all substitution, under penalty of confiscation of all goods, if done without consent of the prescribing physician.)

Saladin of Ascolo or Aesculanus, the celebrated *Artium et Medicinæ Doctor* in Salerno, states in the 4th part of his book, the first modern pharmacy book, *Compendium Armamentarium*, that the apothecary has no right to take any *Quid pro quo* without the consent of the physician. The pharmacist is also ordered to take the very best variety or species of a drug, when same is merely ordered by its generic name!

In the first half of the 17th century, Dr. Guy Patin, dean of the Medical Faculty at Paris, attacked the pharmacists in a sarcastic manner and accused them of substitution.

Such complaints were repeated from time to time and were the cause that pharmacists received the name *Quidproqueur*. This cry of substitution has been kept up ever since, more or less unfounded!

Let us consider, as a matter of history, the advantages of substitutes, advantages which have made it worth while to write the history of substitution.

USE OF INDIGENOUS DRUGS.

Strange as it may seem, there are 6 different nations in 6 different parts of the world who use 6 different plants or drugs as food and drink. However, these 6 drugs belong to one group, the purin group, and they contain the same active constituents, namely, Caffeine. I refer to the coffee of the Arab, the tea of the Chinese, the cola of the African, the cacao of the Central American, the guarana of the Brazilian and the *maté* of the South American. Unknown to each other, these different nations used these different drugs for the same purpose, namely, as a stimulant!

The Chinese do not employ any other drugs but those indigenous to China. It has been the desire of all nations to use domestic drugs as their *materia medica*.

In fact Paracelsus even went so far as to claim that it was impossible to cure a disease in Germany with drugs grown on the Nile!

Much has been written urging each country to make use of the indigenous drugs and to replace foreign drugs with domestic ones. One achievement along these lines is the cultivation of drugs, that is, the **substitution of home-grown drugs for imported ones**. As examples we have American Cannabis in place of Indian Cannabis, American Belladonna in place of the European, American Peppermint in place of the English-grown.

SYNTHETIC SUBSTITUTES.

The advances made in chemistry have been wonderful! Ever since Friedrich Woehler synthesized urea by heating together ammonium chloride and silver cyanate, organic chemistry has produced many synthetic or artificial products, for instance, salicylic and benzoic acid, methyl salicylate, artificial oil of mustard and oil of rose, camphor, indigo and rubber.

Many alkaloids are now manufactured synthetically, as codeine, piperine, cocaine, caffeine and adrenaline. These synthetic products are identical with the natural ones, excepting that on account of their high purity, they do not act upon polarized light.

NEW DISCOVERIES.

In looking for substitutes chemistry has been enriched with many discoveries. One of the oldest records along this line is the discovery of sugar in the beet and the resulting beet sugar industry in 1747 by the German apothecary Marggraff, in looking for a substitute for the expensive cane sugar. Another example is the discovery of the beautiful aniline dyes, which have almost replaced the old vegetable dyestuffs.

CHEMICAL SUBSTITUTION.

This theory was introduced by the French chemist Dumas and means that the hydrogen atoms in organic substances can be removed one by one from their molecules, other atoms being substituted for them. Although this is a different kind of a substitution, it belongs to this subject just the same.

AMERICAN MINERAL WATERS.

Owing to the war it is extremely difficult to obtain foreign mineral waters or to visit the spas themselves. Prof. Felix von Oefele deserves credit for making a very valuable compilation of the principal foreign mineral springs together with their equivalent in this country. Nothing but a substitution and a valuable one at that! This paper was published in the *Bulletin of the College of Jersey City*, Vol. II, No. 3, January 15, 1915, and *JOUR. A. PH. A.*, May 1915, p. 617. It was also highly commented upon by James H. Collins in "Raising Our War Babies," in the *Saturday Evening Post* of April 29, 1916, in which he states: "Altogether we have found good substitutes for about 100 of the foreign *inbads* and *badofs*."

SODIUM SALTS IN PLACE OF POTASSIUM SALTS.

(Owing to the great scarcity of potassium salts and the consequent enormous increase in price, the respective sodium salts have been recommended as substitutes.) Besides their lower price, sodium salts have two further advantages over potassium salts, namely, a smaller molecular weight and greater solubility. One

large chemical manufacturer in the United States has made an active propaganda among physicians and pharmacists in order to give sodium salts the preference.

SUBSTITUTES IN PHARMACOPOEIAS.

That pharmacopoeias do not hesitate to use and to authorize substitutes can be seen from the following:

Deutsches Arzneibuch 5, Ausgabe, 1910, states in spaced type, very prominently: "Tinctura Ipecacuanhae shall be dispensed when Vinum Ipecacuanhae is ordered." "Magnesium Sulfuricum, Natrium Carbonicum and Natrium Sulfuricum: the dry or exsiccated salts shall be used instead of the crystalline in mixtures of powders."

In another paper I present the *Quid pro quo* in U. S. P. IX.

The most extended form of substitution exists in the British Empire. The principal object of the *Indian and Colonial Addendum* is the substitution of drugs indigenous in that particular part of the British Empire. The following are some of the substitutes: Arnica flowers for the root in the North American colonies; species of *Datura* for *Belladonna* leaves in East and West Indies. *Embelia* fruit for *Kousso* and Male Fern in East India. Cottonroot bark for Ergot in East and West Indies and North American colonies.

The new British Pharmacopoeia, 1914, which is said to be adapted to all parts of the British Dominions, also contains a great number of notes, in small type, at the end of the monographs, sanctioning substitution of a similar drug, for instance, under Kino and under *Butea Gummi*: "In India and the Eastern Divisions of the Empire, *Butea* Gum may be employed in making the official preparations for which Kino is directed to be used." Under *Gummi Indicum*, but not under *Acaciae Gummi*, this statement is made: "In India, etc., Indian Gum may be employed in making the official preparations for which Gum *Acacia* is directed to be used, one part of the former being taken for every two parts ordered of the latter."

In Appendix XII of the new B. P. on Alternative Preparations sanctioned for use in Tropical, Subtropical, and other Parts of the British Empire, I find the following:

"*Oleum Olivae*.—In India, and in the Eastern, African, Australasian and North American Divisions of the Empire, *Arachis* Oil or Sesame Oil, but no other oil or fat, may be employed in making the official Liniments, Plasters, Ointments and Soaps for which Olive Oil is directed to be used."

If this is not a dvocating, in fact, soliciting substitution, then what is it?

SUBSTITUTES FOR DRUGS.

Owing to the war and the resulting scarcity of imported drugs, the pharmaceutical and medical journals of Germany and Austria have published lists of substitutes for vegetable, animal and mineral drugs. Truly, not a great deal of difference from the *Quid pro quo* lists of 2 millenniums ago!

Dr. H. Engelhardt, of Baltimore, was good enough to abstract formulas for *Ersatz-Praeparate* of Oils, Fats, Ointment Bases, Lanolin, Vaseline, Glycerin and Soaps.

SUBSTITUTE FORMULAS FOR SPECIALTIES.

My paper on this subject, published in *JOUR. A. PH. A.*, August 1915, p. 952,

describes the two principal booklets, namely, the *Formular des Luxemburger Apotheker Verein* and the *Sammlung von Vorschriften fuer Zubereitungen zum Ersatz von Spezialitaeten des Feindlichen Auslandes* (Collection of Formulas for Substitute Preparations of Specialties from Belligerent Countries).

This shows the trend of substitution in Germany. According to the Kaiser's proclamation on July 31, 1915, pharmacists and manufacturers are asked to replace foreign specialties by those **made in Germany**. After May 1, 1915, no more foreign names or labels can be used and according to *Pharm. Ztg.*, Aug. 7, 1915, p. 511, a druggist was convicted to 2 days in jail for using labels *Eau de Javelle* and *Eau de Botot*.

Verily we live in an age of substitution!

However, let us get away from that ill-smelling word Substitution, and adopt one which sounds much better, namely, **Parallel Drugs and Chemicals**.

PARALLEL DRUGS.

This term has been first introduced in 1897 by Prof. Carl Hartwich, of the University of Zurich, in his book, *Die Neuen Arzneidrogen*. Prof. Alexander Tschirch, of the University of Berne, the world's greatest authority on pharmacognosy, has helped to popularize this word.

The writer has done likewise and has published an editorial in the *Bulletin of the College of Jersey City*, Vol. III, No. 3, Feb. 1, 1916, which has also been reprinted in the monthly *Drug Bulletin* of the Department of Health, City of New York, for July, 1916.

Inasmuch as this editorial also contains an appeal to pharmacists, I shall use it as a finish in my paper on *History of Substitutes and Substitution*.

The substitution of one drug for another has been practiced from the earliest times. Was it not Claudius Galenus (130-200 A. D.), the great Roman physician-pharmacist, who was about the very first to prepare a lengthy list of drugs, *Quid pro quo*, a list which remained in use until about the 16th century?

These substitute drugs, which in Latin were called *Succedanea* or *Antemballomena*, were considered of such great importance that they were included in the old pharmacopoeias. Of late years the substitution of a drug by a similar drug, especially on prescriptions, has even been forbidden by law. This is justly right, because the physician "wants what he wants when he wants it."

However, at the present time, owing to the war, the supply of a great many drugs and chemicals from Germany—and the Fatherland seems to be the only producer of same, especially the coal-tar products—has been entirely cut off by Great Britain, the so-called *ruler of the seas*. The great scarcity of some drugs and chemicals and the high price of others suggest that substitution will again come to life. Not an underhanded, illegitimate substitution, without the knowledge of physician or patient, but a perfectly legitimate substitution. In order to get rid of that ill-smelling word **Substitution**, the editor proposes the term **Parallel Drugs and Chemicals** in place of **Substitute Drugs**.

Now is the right time for the pharmacist to use his knowledge of pharmacy, chemistry and materia medica and to inform the physician of **Parallel Drugs and Chemicals**. Now the pharmacist has a golden opportunity to prove to the medical profession that "Pharmacy is the handmaiden to medicine."

Will he do it?

ERSATZ-PRAEPARATE.

BY H. ENGELHARDT, PH.D.

FATS AND OILS.*

The use of enormous quantities of fats and oils in Germany for the manufacture of glycerin and nitroglycerin has made these commodities very scarce, and numerous preparations have been recommended as substitutes for these vehicles in pharmaceutical preparations.

In the *Pharm. Zeitung*, 1915, page 799, it is pointed out that in the German apothecaries entirely too much lard and oil is used. An average of approximately 200 Gm. of lard and edible oils is daily used in each drug store. In the 6200 drug stores in Germany this would amount to 1200 kilos daily or 36000 kilos per month. A good deal of this fat could be substituted by mineral oils, or by oils which are not edible.

It is further recommended by Zickner, *Pharm. Zeitung*, 1916, page 167, that in order to avoid the use of edible oils, ointment bases, etc., prepared as follows may be used: Liquid paraffin 460 parts, olein 90 parts, rape oil 130 parts, strong ammonia water 150 parts, dilute lime water ($1\frac{1}{2} : 1$) 175 parts, or vaseline 535 parts, rape oil 100 parts, olein 85 parts, strong ammonia water 135 parts, dilute lime water 145 parts. In both prescriptions the mineral fats are heated with the olein and after cooling to 30° the mixture is shaken with the ammonia water. Both ointments are well miscible with chloroform and are stable.

LARD.

As substitutes for lard, Lohmann, *Pharm. Zentralh.*, 1916, page 96, recommends a mixture of anhydrous wool fat 30 Gm., solid paraffin 250 Gm., and liquid paraffin 785 Gm., while Schnabel, *Pharm. Zentralh.*, 1916, page 54, recommends a substitute called Paralan consisting of anhydrous wool fat 20 parts, solid paraffin 20 parts, liquid paraffin 60 parts.

Stier, *Pharm. Zeitung*, 1916, p. 131, recommends the following product as substitute for lard: Solid paraffin and liquid paraffin each 150 parts, or yellow vaseline 380 parts, and 100 parts of anhydrous wool fat are mixed with 370 parts of a warm 5 percent gelatin solution. The mass is stirred until cool. With this base most ointments can be prepared. Insoluble substances are triturated with the vaseline, while soluble substances such as potassium iodide and boric acid are dissolved in the hot gelatin solution.

OINTMENT BASES.

Zickner, *Pharm. Zentralh.*, 1916, p. 96, recommends the following products: I—For eye salves, lanolin should be used. II—For ointments which contain only fats but no water a base prepared from solid paraffin 1 kilo, liquid paraffin 4.5 kilos and anhydrous wool fat 0.5 kilo. III—For ointments which allow a certain amount of water, a mixture of liquid paraffin 4.5 kilos, solid paraffin 1

* This is a second article of a Symposium on Substitution presented at the meeting of Section on Commercial Interests. A. Ph. A., Atlantic City meeting.

kilo, white wax 40 Gm., anhydrous wool fat 0.4 Gm., and water 450 Gm. may be used. For preparing mercurial ointment, ointment base No. II with an addition of 30 Gm. of wax is recommended. For preparing ointment of potassium iodide, Dr. Sch. uses the following ointment base: Cearin 215 Gm., liquid paraffin 643 Gm., potassium iodide 104 Gm. and distilled water 78 Gm. Another ointment base is recommended by Bedall, *Apoth. Zeitung*, 1915, p. 647. Solid paraffin 200, liquid paraffin 800 and lanolin 1000 are heated and after cooling 400 water are added. For preparing a 10 percent mercurial ointment a mixture of 6 parts of tallow and 4 parts of liquid paraffin is used.

GLYCERIN.

The scarcity of glycerin in Germany is produced by the use of large quantities of glycerin in making explosives and by heating the kettles in the field kitchen in glycerin baths. Greenbaum, *Pharm. Zeitung*, 1915, p. 505, recommends that glycerin for the latter purpose be replaced by paraffin which is just as bad a conductor of heat as glycerin and does not need to be renewed as often.

The *Pharm. Zeitung*, 1915, p. 511, quotes an article appearing in the *Zeitschrift Neust. Erf. u. Erf.* as follows: As substitutes for glycerin, preparations made from substances of both vegetable and animal origin are recommended, substances which contain a great percentage of mucilage such as agar agar, Irish moss, gelatin, isinglass, Iceland moss, linseed, marshmallow root, salep and tragacanth. Agar agar in rather concentrated solutions is not at all unctuous. Irish moss preparations again are rather unctuous but make the skin rough. Gelatin solutions are sticky. All preparations obtained from the above substances have the disadvantage of not being stable. They may be rendered stable by adding to the extract about 30 percent of glycerin.

Gissinger, *Pharm. Zeitung*, 1915, p. 120, recommends a mixture of gelatin 6 parts, rose water 300 parts, boric acid 10 parts, tincture arnica 30 parts, and glycerin 645 parts. Instead of tincture of arnica other perfumes may be used.

Glycerin ointment is obtained by triturating 16 parts of tragacanth with 375 parts of glycerin and then adding 375 parts of water.

For substituting glycerin in Kaolin-Glycerin-Ichthyol Paste, a preparation which is extensively used in the treatment of furunculosis, Unna in the *Berliner Klin. Woch.*, 1915, Nos. 40 & 41, recommends kaolin 40 parts, syrup 30 parts, calcium chloride solution (1 plus 2) 20 parts, ichthyol 10 parts. As substitutes for Iodoglycerin a mixture of tincture iodine 30 parts and syrup 20 parts is given. For Syrup-Zinc-Gelatin: Gelatin 15 parts, zinc oxide 15 parts, syrup 25 parts, distilled water 45 parts. This product is also marketed with the addition of 2 parts of ichthyol.

Naturally a good many preparations of doubtful value have been exploited as substitutes for glycerin; thus Mannich and Schirmer, *Apoth. Zeitung*, 1915, p. 713, report on a product called Lempellin which is a thin solution of a mucilaginous substance rendered stable with boric acid, Substitute for Glycerin, Henkel & Co., which is a sugar solution, and Cosmetic Glycerin Substitute, Henkel & Co., which is more or less inverted syrup.

Algin, according to *Pharm. Zeitung*, 1915, p. 37, is a product obtained by allowing kelp to macerate for 24 hours with caustic soda solution. The mucilagi-

nous mixture is precipitated by alcohol, methyl alcohol, mineral acids and some salts.

WOOL FAT.

Quite a number of substitutes for wool fat, the ideal base for making ointments, have been suggested; v. d. Wielen, *Pharm. Zeitung*, 1916, p. 66, recommends a mixture of 20 parts of white wax, and 80 parts of linseed oil, a mixture which is able to take up 170 parts of water. Ten Velthuis (*Ibid.*) reports on good results obtained with a mixture of 10 parts of yellow wax, 25 parts of wool fat, 45 parts of yellow vaseline and 25 parts of water or a mixture of yellow wax 15 parts, yellow vaseline 60 parts and 35 parts of water. Segerstedt, *Svensk Farm. Tidsk.*, recommends a product called Cerolanum. He describes two preparations, anhydrous cerolanum consisting of 7 parts yellow wax, 15 parts of wool fat and 78 parts white vaseline and cerolanum which is a mixture of 70 parts of anhydrous cerolanum and 30 parts distilled water.

Blatz, *Pharm. Zeitung*, 1905, described a substitute for wool fat named Cetosan which quite recently is mentioned by Segerstedt, *Apoth. Zeitung*, 1915, p. 643 and 706, under the name of Cenolin. It is recommended as a substitute for wool fat and consists largely of cetyl alcohol. It is obtained in the following way according to a process worked out by Segerstedt and Süderberg: 100 Gm. of spermaceti are heated in a capacious enamelled dish with 500 Gm. of alcoholic potassium hydroxide (25 percent) until saponification has taken place. The warm mass is then poured into 10 times its volume of warm 10 percent sodium chloride solution when the cetyl alcohol will gradually rise to the surface. It is then collected on a filter washed with hot water, in order to remove palmitic acid, until the wash water does no longer show a reaction of chlorine. The mass is then allowed to drain and is gently pressed. It still contains about 30 parts of water and small amounts of soap which, however, do not interfere with its use in preparing ointments. In order to prepare anhydrous cenolin 7 parts of cetyl alcohol, 10 parts of wool fat and 83 parts of vaseline are mixed. For making cenolin 70 parts of anhydrous cenolin are mixed with 30 parts of distilled water. Anhydrous cenolin easily takes up 50 parts of water.

v. d. Wielen, *Pharm. Weekbl.*, 1915, p. 773 to 775, further reports that a mixture of vaseline, wax, in which caoutchouc is dissolved at first seemed to be very suitable as substitute for wool fat. Further experiments, however, showed that the caoutchouc produces too great a stickiness. By the addition of water the consistency of the mass does not become satisfactory. Hegland therefore recommends a mixture consisting of 20 parts of linseed oil, 20 parts of vaseline and 5 parts spermaceti, a mixture which is able to take up from 70 to 80 parts and even 100 parts of water without producing too thin an ointment. The disagreeable odor of linseed oil may be masked by the addition of ethereal oils such as lemon oil, lavender oil, etc.

For an Eucerin-Glycerin substitute the *Pharm. Zentralh.*, 1915, p. 672, recommends a mixture of anhydrous eucerin 50 parts, calcium chloride 50 parts.

ARTIFICIAL VASELINE.

For making artificial vaseline, Ansehnier, *Pharm. Zeitung*, 1916, p. 66, recommends mixing yellow wax 0.3 part, solid paraffin 0.7 part and yellow vaseline 9 parts.

TINCTURE IODINE.

As a substitute for tincture of iodine a 5 to 10 percent alcoholic solution of tannic acid is recommended by Schmerz in the *Pharm. Zeitung*, 1916, p. 22.

SOAP.

The scarcity of fats naturally has induced the German chemists to look for substitutes of fats in soaps. Thus the *Seifenfabrikant* recommends that soaps be prepared from saponifiable substances which can readily be obtained by the oxidation of mineral oils, for instance, by oxidizing the crude distillate of a certain fraction of coal oil with sulphuric acid and manganese peroxide by which 50 percent of saponifiable substances are obtained.

For making a soap without fat, Schneider, *Pharm. Zentralk.*, 1916, p. 130, gives the following process: 100 Gm. of soap bark are heated with 300 Gm. of water on a water-bath for a half hour and the liquid is then decanted. To this liquid 400 Gm. of kaolin and 400 Gm. of talcum powder are added and 10 drops of benzaldehyde. The stiff paste thus obtained may be used as a substitute for soap. Naturally, it does not foam but cleanses just as well as soap.

SENNA LEAVES.

Caesar and Loretz, *Geschäftsbericht*, 1915, recommend substituting senna leaves either by rhubarb or still better by buckthorn bark.

FAKE SUBSTITUTES.

Naturally, quite a number of fake preparations are put on the market. Gerber, *Pharm. Zeitung*, 1916, p. 151, published in the *Zeitsch. f. Unt. Nahr. und Genuss.*, 41 analyses about substitutes for food products. These consisted of vegetable and milk albumin, casein, disintegrating substances such as sodium bicarbonate and magnesium carbonate and artificial coloring matter.

TOELLNER'S SUBSTITUTE FOR EGGS.

Pharm. Zeitung, 1916, p. 108; this preparation occurs as a yellow powder which is colored with an artificial dyestuff. It consists of potato starch and powdered skim milk, casein and small quantities of boric acid.

SUBSTITUTE FOR SALAD OIL.

As substitutes for salad oil, vegetable mucilage colored slightly yellow and flavored with soup herbs and preserved with boric acid is offered, but is not allowed by the Government officials to be marketed (*Pharm. Zeitung*, 1916, p. 108).

QUID PRO QUO IN U. S. P. IX.*

BY OTTO RAUBENHEIMER.

Quid pro quo, frequently written in one word *quidproquo*, means in German *Das fuer was*, or in good English, "one for another," and in pharmacy it refers to the substitution or replacement of one drug for another. As pointed out in my paper, "History of Substitutes and of Substitution," regular lists of such *Quid pro quo*, were added to the old works on pharmacy and medicine.

* See foot-note under "History of Substitutes and Substitution," this issue.

That our U. S. P. IX, official from September 1, 1916, contains instances of such *Quid pro quo* and sanctions their employment, is an innovation in pharmacopoeia making of the 20th century, and it is the object of this paper to elucidate these points.

Alum, U. S. P. IX, can be either ammonium alum (which is stated first) or potassium alum, a proper statement to be given on label.

Methyl Salicylate can be either the synthetic preparation or the distillate from wintergreen or from sweet birch. The label must indicate the source.

Scopolamine Hydrobromide is also known as hyoscyne hydrobromide.

Oleum Anisi can be either from anise seed or from star anise. The botanical source from which it is derived must be stated on label.

Oleum Sinapis Volatile can be the synthetic preparation or the volatile oil of black mustard, the label to indicate the source.

Petrolatum Liquidum can be heavy or light and can be American or Russian.

Caffeine can be obtained from tea leaves, coffee beans, other plants, or can be prepared synthetically.

Theophylline from tea or synthetically.

Hydrastine from *hydrastis* or synthetically.

Codeine from opium or by methylation of morphine.

Saccharum from sugar cane, sugar beets or other sources.

The vegetable materia medica of the U. S. P. IX abounds in *Quid pro quo*. In numerable instances the pharmacopoeial drug can be derived from "some other species," as, for example, *Cinchona* and *Rheum*. Many drugs can be either one of several species, which species are fully described in U. S. P. IX, for instance:

Benzoïn.....	Siam or Sumatra
Buchu.....	short or long
Glycyrrhiza.....	Spanish or Russian
Senna.....	Alexandria or India
Serpentaria.....	Virginia or Texas
Xanthoxylon.....	Northern or Southern
Sarsaparilla.....	Mexican, Honduras or Jamaica
Ginger.....	Jamaica, African, Calcutta, Calicut, Cochin or Japanese

The *Quid pro quo* have also taken possession of some galenical preparations, a matter of great importance to the pharmacists.

Upon a careful perusal of the U. S. P. IX I also find the following Notes added to the monographs: *Liquor Cresolis Compositus*.—Note: In this process the 80 Gm. of potassium hydroxide may be replaced by 54 Gm. of sodium hydroxide.

Liquor Magnesii Citratis.—Note: In this process the 2.5 Gm. of potassium bicarbonate may be replaced by 2.1 Gm. of sodium bicarbonate, preferably in tablet form.

Pilulæ Ferri Carbonatis.—Note: In this process the 8 Gm. of potassium carbonate may be replaced by 7.2 Gm. of monohydrated sodium carbonate.

These are the principal *Quid pro quo* in the U. S. P. IX. Now the answer as to why was such substitution authorized? For the very same reason as in the times of old Egypt, Greece, Rome and Europe, namely, because certain drugs and medicines became scarce and very expensive and even unobtainable. Blame it all on the war, is the slogan at present! Justly so, because Europe, and quite especially

Germany, has been supplying the United States with drugs and chemicals, and this supply has now been cut off. The Stassfurt mines in Germany no longer furnish the crude material to American manufacturers of potassium salts. The consequent scarcity and extremely high price of the latter were the reason that the Revision Committee authorized the *alternative use of an equivalent amount* of sodium salts by the addition of a Note to the Formula of the following:

Liq. Magnes. Citrat.	2.1 Gm. NaHCO_3	to replace 2.5 Gm. KHCO_3
Pil. Ferri Carbon.	7.2 Gm. $\text{Na}_2\text{CO}_3 \cdot \text{H}_2\text{O}$	to replace 8 Gm. K_2CO_3
Liquor Cresolis Co.	54 Gm. NaOH	to replace 80 Gm. KOH

Although the action of the Revision Committee has been criticized as "hysterical" and "approving substitution," the writer is firmly convinced that it was a timely step in the right direction and of material benefit to the entire drug trade. In a paper "Sodium Bicarbonate for Citrate of Magnesia," published in *The Practical Druggist*, June 1916, p. 22, I have gone into full details regarding that particular subject.

DEPARTMENT OF PHARMACY,
COLLEGE OF JERSEY CITY, N. J.

ROCKEFELLER FOUNDATION BUILDING PROJECT IN PEKING.

JOHN R. ARNOLD, IN CHARGE, OFFICE OF COMMERCIAL ATTACHÉ, PEKING, CHINA.

An announcement has just been made by the representative of the Rockefeller Foundation in this city with regard to an extensive building program that institution has in prospect. Some time ago the foundation took over the previously established Union Medical College of Peking and the hospital operated in connection with it. It is now proposed to build a complete new plant for these institutions, the plans calling for buildings for the college to accommodate a maximum of 50 students and for the hospital to provide for a present maximum of 200 beds, with possibilities of later expansion. The hospital is intended primarily to provide clinical facilities for the college, and it is expected to be patronized mainly by the poorer classes.

The expenditure that this project will involve is not officially stated, but it is understood that it may run over \$1,000,000. The announcement is not only of interest in connection with the great benefit that will accrue to the cause of medical education in China, and with the increase that will result in American prestige in this part of the country, but from a more strictly commercial point of view because of the expenditure that will ultimately be necessary for materials and supplies.

So far the place has only been looked over by an architect. The appointment of regular architects will follow shortly.

SYSTEM AND VIGILANCE THE GREAT ESSENTIALS IN BUSINESS.*

BY LOUIS SCHULZE.

ORDNUNG LERNE, LIEBE SIE,
SIE ERSPART DIR ZEIT UND MÜHE.

This German proverb does not mean that the writer is pro German, or pro anything else in the great conflict "across the pond," but does mean that a good faithful mother from among the numerous proverbs of her ancestors tried to impress her sons, of whom the writer was one, with the great good derived from systematic, orderly arrangement of affairs, and that by the observation of such rules time and labor are saved.

Only a few months ago the great importance of system and vigilance was again impressed upon the writer, by the lack thereof displayed in a pharmacy placed in his hands for disposal. The store in question had been conducted for a year or more for a practicing physician by the young doctor of pharmacy before he became the owner, and during that time was developing into a good stand; thereafter, instead of being the manager, our young P.D. became the owner with the responsibility of doing the buying as well as the selling. In spite of additional funds advanced from time to time from the holder of a bill of sale, the end came after the lapse of about two and half years, and why? First, because of the extravagant ideas of the owner, as although there were good serviceable fixtures in the store that would have answered every purpose, at least until the indebtedness had been largely, if not entirely liquidated, they were added to, remodeled, repolished and the store put into a condition that would have been a credit to New York's Broadway, instead of a small hamlet in the suburbs of Baltimore. When the store was turned over to the writer he remarked to the one who had been the owner, all that was necessary in the evening was a band of music and perhaps a female dancer to make one imagine they were in a New York cabaret. Among other decorations of the store there had been installed the latest and most improved patterns of tables and chairs for the patrons of the soda fountain; artificial palms and grape vines, with clusters of grapes, and next came a typewriter and an expensive desk for it, in the rear of the prescription counter.

Having put in these improvements, our young "Rockefeller" in pharmacy came to the conclusion that the next thing was to buy goods cheap, hence he started in to take advantage of all quantity offers and cornered all non-secret remedies by obtaining the agency by the purchase of quantity lots to prevent anyone else from getting them, although the market store was only $1\frac{1}{2}$ miles from him. Goods were sold at the lowest cut prices prevailing in the business center of the city, four miles distant from the store in question. Business was done, the store was well patronized by the community, but somehow, inexplicable to the owner, bills could not be met, so more money was borrowed, and as somehow the system of book-keeping, or lack of system in keeping books, did not show satisfactory profits or gains, the advice of a salesman was taken, and the old cash register was replaced

* Read before Section on Commercial Interests, A. Ph. A., Atlantic City meeting, 1916.

by the latest pattern, three-drawer register that was going to make everything so satisfactory that an automobile, steam yacht, etc., would soon have been purchased for the delivery of goods. But alas for the golden dreams of youth, instead of these came the landlord's distraint for rent, followed by the foreclosure of the bill of sale in the stock and fixtures and the declaration of bankruptcy for our young P.D.

The results would have been different in this case, and the same holds good in any case where there is trade to be had, if a system of book-keeping had been adopted that would have shown clearly the profits being made. These profits should have been arranged to meet the daily outlay, and a sinking fund provided also, so that the indebtedness would be cut down and not increased, then proper help employed and no dependence placed in hangers-on around the store for sale of cigars and soda water (as was the case here), as such help is always expensive, for the amount of cigars and cigarettes smoked, the ice cream carried off, etc., in a week amounts to more than the salary of a reliable youth regularly employed for such sales.

Another thing that was overlooked in the case cited and is so often misjudged by young beginners, is that while it is profitable to have a tidy, attractive store, this can be done without very expensive store furniture, and location must always be taken into consideration, as well as the people that constitute the trade. What might be very modest furniture for Broadway would perhaps be very expensive for a small suburban town, and, on the other hand, what might be especially attractive in a suburb composed of the office force and salesmen of manufacturing plants, would be very modest in a suburb whose population is of the millionaire class. But no matter where a store is located, the same vigilant care must be observed to keep expenses within reasonable bounds: not to be too extravagant in the matter of decoration and other methods of advertising; care exercised in purchasing merchandise and not to be too zealous in the cutting of prices. The employment of proper help is as essential as keeping a system of books, that will enable one to know what profits are being made; the store should always be attractive, the windows clean and a neat display therein.

Finally, it may be repeated that courtesy, in the treatment of customers, is a drawing card, thereby they are made permanent patrons, and upon this hinges largely the success of every business, especially that of the smaller towns.

PHOTOGRAPHIC WORK AND SUPPLIES AS A SIDE-LINE.*

BY EMIL ROLLER.

It is a deplorable fact that it is impossible for the average pharmacist in this country to conduct his business as they do in European countries, on a purely scientific basis.

Certainly, the progress made in pharmaceutical education within the last twenty-five years fully entitles the pharmacist to do so, but if tried in practice 99 percent of the attempts would end in failure; therefore we have found it essential to our very existence to branch off from our regularly appointed duties to meet the rapid competition which springs up hydra-headed on all sides of us; we must blind ourselves oftentimes to the ethical aspect of our profession and join that vast class known as the American tradesmen. I say it is deplorable, but I am equally aware of the dire necessity of our actions. But let us be as jealous of our scientific attainments as we can, and let us exercise our scientific knowledge in as many dignified ways as possible. There are many side-lines which we can profitably handle, and still make use of our knowledge of chemistry. Let us take, for instance, the science and art of photography. There is hardly a home to-day where there is not some form of a camera.

In the early days of the amateur, he was compelled to finish his picture from beginning to end, as he could not have the developing and printing done as easily as he can to-day. He had to come to the druggist to make up for him the different solutions or baths, such as developers, fixing baths, gold toning baths, intensifiers, reducers, and so on. The sale of the chemicals for these solutions, or the putting up of them, was a great source of income for the druggist, and having a clientele for these preparations, it soon became a necessity to also keep the plates, films and papers on hand to supply the demand. The profit in these goods varied from 40 to 100 percent in those days; however, this situation has changed within the past eight or nine years. At first, regular photographic galleries started to develop plates and films and printed pictures for amateurs; their charges were rather high and the druggist, who traded in photographic supplies, did not suffer much from this opposition, but soon some shops came into existence that made a regular business of developing and printing for the amateur at prices as low as 5 cents for the print. This, of course, was very enticing for the people and they soon gave up the laborious work of doing their own developing and printing. To-day the amateur who finishes his own pictures is a rarity, and competition in this field has also spoiled the prices we first received. Now most of these professional printing concerns charge nothing for the developing of the films and from 3 to 5 cents for the prints, according to sizes; they allow the druggist a profit of 30 to 40 percent for turning the work over to them. It has, however, stopped our sales of photographic chemicals and solutions and consequently the many other little essentials needed by the amateur photographer; all that is left to us now is the sale of films, cameras and the commissions from printing agencies, but to offset

* Read before Section on Commercial Interests, A. Ph. A., Atlantic City meeting, 1916.

this loss it brings certain people into the store, who otherwise would never have entered.

One thing is very necessary to make this line a success and that is, when you handle photographic supplies, make yourself acquainted with the different photographic processes, so that you can answer all kinds of questions when people tell you about their failures, so you can show them how to avoid these in the future. This will give you a standing as a quasi expert, and once having gained the confidence of the amateur you can always have his business.

It is more than worth while to cater to this kind of trade, as the number of amateurs increases constantly, and in many cases it is a paying business from the outset. Having had twenty-five years' experience in the photographic work, always with success, I am sure you, too, if you give this side-line a trial, will find it not only interesting to yourself, but also very profitable. Try it, I ask you who have not done this work, for it will pay you.

MOSES A WISE DOCTOR.

There has been gathered a collection of facts to prove that the sanitary laws of Moses were not only on a line with the modern rules of hygiene, but in some cases in advance of them.

The Jew, thousands of years before Christ, settling in a semi-tropical country, was forbidden to eat pork or shellfish, and milk was designated as a source of contagion. In the Talmud a method of slaughtering animals was prescribed which is acknowledged to-day in our markets as the most sanitary.

Five thousand years before Koch gave to the world the results of his researches in bacteriology, the Mosaic law pointed out the danger to man from tuberculosis in cattle, but did not forbid infected poultry as food. It was only a few years ago that German specialists discovered that fowl tuberculosis was harmless to man.

The Mosaic law also enforced the isolation of patients with contagious diseases and the burial of the dead outside all cities. These hints the Gentile world did not fully accept until a century or two ago.

The wise law giver prescribed not only fasting at certain periods of the year, but the removal of whole families in summer out to camps, where for a time they could live close to Nature. Many of the laws of Moses were prescriptions intended for the health of both mind and body.—*London Tit Bits*.

CONTRIBUTED AND SELECTED

THE U. S. P., NINTH REVISION, AS A WORKING UNIT FOR THE DRUG CHEMIST.*

BY H. C. FULLER.¹

I have been asked to discuss the ninth revision of the United States Pharmacopoeia from the standpoint of a chemist. I presume that in presenting my observations I may be permitted to give expressions to the thoughts which come to one who has been associated with the chemical features of drug problems in a broad sense including analytical, standardizational and forensic. I feel that I am pretty well acquainted with the Pharmacopoeia as a working unit after over fifteen years of almost daily contact with the seventh and eighth editions, and from the study I have already made of the ninth and latest edition of the work. My association with the Pharmacopoeia is not a literary or a second-hand, critical, chemical study, but an intimately practical one in everyday work, and during the last nine years I have been able to see at first hand its applicability in relation to chemico-legal problems.

I know nothing of pharmacopoeia politics and am not, and never have been, concerned with anything but the finished work and what it embraces. Hence I can look at it from that standpoint. As a result of my experience the test of the Pharmacopoeia is an intensely practical one. It is the signal test of usage. This test lies entirely in its working value—as it elucidates the definite problem of the moment, either analytical or descriptive. In proportion as it is thus applicable and serves to indicate or clarify the immediate method of procedure or the description of the substance under investigation, in such measure is it a significant factor in my work, and I think I can state with authority, in such measure is it of real and lasting value to the pharmaceutical and medicinal chemist.

The Pharmacopoeia is the authority to which one turns both for standards and for methods of analysis. It is the working unit for the drug and medicinal chemist. Now what is the scope of the ninth revision from the point of view of the drug and medicinal chemist? Let us consider first its scope as to the substances recognized in the text and second as to the standards, analytical tests, and methods of analysis.

The Food and Drugs Act states "that the term 'drug' * * * shall include all medicines and preparations recognized in the United States Pharmacopoeia or National Formulary for internal or external use and any substance or mixture of substances intended to be used for the cure, mitigation or prevention of disease of either man or other animals." Now the first thing that strikes the critical eye of the chemist in looking over the 782 articles recognized in the text of the new edition of the Pharmacopoeia is the fact that about 10 percent of these articles do not answer the definition of drug as given above but are more strictly speaking

* Address delivered before the Washington Branch of the American Pharmaceutical Association.

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chemical reagents, intermediates, condiments, flavoring agents, perfumes, mechanical solvents, vehicles and binders. Thus we have well-defined standards for sulphuric, hydrochloric and nitric acids, aqua regia, sodium indigotinsulphonate, zinc metal, cochineal and red saunders; for lead oxide, bleaching powder and silver oxide; for sugar, caraway, coriander, fennel and mustard seeds, cinnamon, vanillin and nutmeg; for orange flower water, rose water, lemon peel, red rose petals, tincture of lavender and oils of orange, caraway, coriander, fennel, lavender, lemon, spearmint and rosemary; for benzine (petroleum ether), water, acetone and paraldehyde; for starch, gelatin, glucose, honey, paraffin, suet, talc and infusorial earth. Others might be mentioned. The drug chemist asks himself if any one of these substances comes within the scope of the definition of drug as given in the law. It is doubtful if any of the above substances have any extended use as internal or external mitigants or preventatives of disease. Objection will at once be raised to my attitude because of the fact that some of the chemicals mentioned above are employed in the preparation of other chemicals used in medicine, but the manufacture of chemicals is a commercial proposition, and the maker of ammonium chloride, for instance, is not concerned with the employment of a strictly U. S. P. standardized hydrochloric acid. Furthermore, one of the general principles laid down by the committee of revision was to the effect that the standards of purity and strength prescribed in the text of the Pharmacopoeia are intended solely to apply to substances which are used for medicinal purposes. Standards for condiments and flavoring oils have been adopted by the authorities administering the food sections of our National and State Acts, hence the user of these commodities is now amply protected from any sub-standard or spurious articles.

Now please do not misunderstand my position with regard to the inclusion of a considerable number of reagents, intermediates, condiments and flavors in the text of the Pharmacopoeia. I am not objecting to their being included but the significance of including all these substances which are not drugs and medicines is somewhat obscure when a much greater number of important and valuable drugs have not been recognized or have been deleted. If substances such as sulphuric acid, nitric acid, bleaching powder and metallic zinc are included, why omit aniline and benzol which are the basic substances of a vast number of medicinal chemicals as well as iron oxide which is used in the coating of dark-colored tablets?

Again, since there have been included so many reagents, intermediates, condiments and mechanical agents, why was such a large number of botanical drugs of well-established therapeutic value omitted or deleted? For one who uses the Pharmacopoeia as a working unit this is a question of important and serious moment. Let us examine the list of deletions of this class of drugs. Among them are included:

Anthemis	Chirata	Cypripedium
Apocynum	Coca	Euonymus
Berberis	Conium	Eupatorium
Calamus	Convallaria	Ficus
Calendula	Corn silk	Geranium
<i>Cassia fistula</i>	Cotton root bark	Hamamelis leaves and root
Chimaphila	Cusso	Hedeoma

Horehound	Phytolacca	Santonica
Krameria	Prunum	Sassafras pith
Lappa	Quercus	Savine
Leptandra	Quillaja	Scoparius
Lupulin	<i>Rhus glabra</i>	Scutellaria
Matico	Rubus	<i>Viburnum opulus</i>
Parcira	Salvia	

What percent of the total deletions do these products and their preparations represent? Thirty-five percent.

These botanical drugs have been used as medicinal agents for a great many years. Their value has been demonstrated over and over again by medical usage. The fact that they and the popular remedies containing some of them have withstood the test of years, and, in spite of the derogatory campaigns directed against them, have continued to grow in popular esteem, is in my mind a significant point in their favor. Nature in her omnipotence has supplied mankind with everything he needs for his comfort and advancement; development only has been needed to make it available. Why should we doubt that nature would fail to supply man with the agents for combating the diseases to which he is subject? The development of drug chemistry during the past decade has demonstrated that the botanical drugs, which have been used more or less empirically for many generations, possess new and hitherto unexpected chemical individuals and the discoveries in the field of phytochemistry are destined to assume greater and greater importance. In the case of our natural drugs it has been demonstrated over and over again that no one ingredient is the cause of the therapeutic activity of the individual conglomerate. The classical work of Dr. F. P. Power and his associates has increased our knowledge of the chemical composition of many well-known botanical drugs. The work of unraveling the constituents of our North American drugs has hardly begun, and as Dr. Power recently stated at a meeting of our chemical society, this field is one of the most attractive to the organic chemist at the present time.

It would appear that one of the principles in the compilation of the present Pharmacopoeia was to base its scope on the therapeutic ideas of a limited number of individuals rather than on medical usage, and this brings me up to a very important subject to which I want to refer at this point—namely, the constitutionality of the clause in the Food and Drugs Act making the Pharmacopoeia a standard for drugs. The argument has been advanced that this part of the law is unconstitutional because by it, Congress improperly delegated legislative authority. The decision of Hough on this point in the Lehn and Fink case is based on common sense and is comprehensive for the case in hand. Unfortunately his decision was not passed upon by the Circuit Court of Appeals or the Supreme Court. He quotes: "The legislature cannot delegate this power to make a law but it can make a law to delegate a power to determine some fact or state of things upon which the law makes or intends to make its own opinion depend. To deny this would be to stop the wheels of government. There are many things upon which wise and useful legislation must depend which cannot be known to the law-making power and must therefore be subject to inquiry and determination outside of the halls of legislation;" and on the point at issue he concludes that "to me there

could not be a plainer instance than this act of the legislature's having made a complete and perfect criminal statute, not dependent at the time of its passage on the act of any other power or person and of them providing for changes in the meaning of the word 'adulterated' a word which, in the nature of things, may and should change its signification with advancing knowledge or increasing civilization." It seems to me that, in the light of Judge Hough's decision, a dangerous situation has arisen because the wholesale deletions in the new edition must have been brought about for reasons other than medical usage or chemical discovery. We all know the attitude of the courts towards controversies where the merits of the case depend upon therapeutic opinions, and if it should happen that the question of the constitutionality of that clause in the law making the Pharmacopoeia a standard for drugs, should arise in the course of carefully planned litigation where the parties had made themselves thoroughly familiar with the methods of revision, it is to be feared that the courts would not hold in especial favor a standard which might, at one whim or another, every ten years, delete a hundred or more valuable therapeutic agents and carefully provide for the standards of a number of chemical reagents, foods and condiments under the caption of drugs.

I realize that the answer to this will be that the National Formulary adopts what the Pharmacopoeia deletes, but this is hardly fair to the National Formulary, and furthermore, the legality of this work has not been passed upon by the courts. From my study of the new edition I think that the National Formulary is a more tolerant standard than the Pharmacopoeia. It includes 789 articles in the text, 7 more than are recognized in the text of the Pharmacopoeia. It presents in Part I a set of excellent formulas of galenic preparations and in Part II it provides standards for a large number of chemical salts and botanical drugs, all of which might just as well be recognized by the ninth revision of the Pharmacopoeia as the salts and drugs which are recognized. To one like myself who depends upon the Pharmacopoeia as a working basis, it seems a little incongruous to have two books of standards of drugs and medicinal chemicals. As the situation now exists, neither is a complete book of standards. I think that instead of deleting well-established medicinal agents, the Pharmacopoeia ought to recognize more and more drugs and medicinal chemicals, and in this respect the Homeopathic Pharmacopoeia has much to commend it.

The examination of the text indicates to the chemist that there has been lack of coördination in the relations between some of the substances admitted and deleted in the ninth revision. Attention is called to the fact that pimento is not recognized though several other well-known condiments are included and the oil of pimento is included; santonica, which is often used in veterinary remedies, is not present but santonin is recognized; distilled extract of witch hazel is an official preparation but witch hazel leaves have been discarded; coca has been deleted and cocaine left in; hops find a place but lupulin is missing; honey is given a place at the official table while invert sugar remains unrecognized; zinc metal is featured but bismuth metal, the purity of which for preparation of medicinal chemicals is as fully important as that of zinc, has not been recognized.

From the standpoint of the analytical chemist, the ninth revision contains much material worthy of commendation. The descriptions and the distinctive and purity tests are good, and in general they are sufficient. The relegation to

the mythical past of some of the old pharmaceutical prejudices is gratifying. Thus we see that *Digitalis*, to be official, is not limited to the two-year old leaf, and that *Cannabis sativa* can grow somewhere else besides the "East Indies." As a matter of fact, by far the larger quantity of the imported article has, in recent years, come from Greece. The compilers might well have gone one step farther and removed the sex limitations of this drug, for I can state with authority that the tops of the male plants possess physiological properties of the same character and to the same degree as those possessed by the pistillate tops. Methyl salicylate is no longer recognized under three headings, the chemically identical oils of *Betula* and *Gaultheria* being omitted. This is real progress.

The microscopic and macroscopic tests and characteristics of botanical drugs have been carefully revised and leave little to be desired. I think, however, for consistency, the microscopic characteristics of buchu should have been included.

The chapter on general methods of analysis should be digested by everyone concerned with the testing of drugs and medicines. Especially is this true of the paragraphs relating to the proximate assaying of drugs. The value of the practical advice contained therein cannot be overestimated. Personally, I think the directions in the text for conducting the proximate assays are too loosely worded. They place too much responsibility on the worker, who unfortunately is often too inexperienced to assume the responsibility. I have conducted a great deal of coöperative work on methods of assaying, and I have found that, unless the directions are precise and complete in every detail, comparative results on which reliance can be placed are almost unobtainable. The personal equation of the drug analyst, even of wide reputation, is, to quote Kipling "beyond the wit of any man, black or white, to fathom." In respect to detail, I think the directions for proximate assays in the eighth revision were more likely to lead to accurate results than those in the ninth. However, I will say this. If the analyst knows something about drug assaying and digests the paragraphs on this subject in the general methods, he ought to obtain concordant and fairly accurate results. But even then, if the results are concordant, they do not necessarily furnish data on the true alkaloidal value of the sample.

The ninth revision has adopted the aliquot assay in place of the total extraction method of the eighth revision. This shortens the time of the analysis and eliminates some of the manipulative features of the old assay, but my experience has shown that an aliquot assay does not give as true an idea of the alkaloidal value of a drug as is given by the total extraction procedure. The weak points of the assay processes of the ninth revision will be the cause of much confusion in the drug trade. In fact this condition has already developed. A dealer offers for sale a drug, the strength of which has been based on an assay which shows the true alkaloidal value. The buyer accepts the goods on that basis and then proceeds to check up the assay with the ninth revision method which gives him lower results. Then he files a claim against the seller. Thus a situation arises which is unfair to the drug dealer, but which can be settled only by some adjustment on his part, unless the two factors are willing to have a joint assay performed in the presence of a referee.

Standards for some of the drugs, based on physiological assay, have been described. This feature is a new one and is to be commended. The standard

for Cannabis is too high and the proper labeling of specimens in order to conform to the Food and Drugs Act will cause some hardship to the legitimate drug trade, because the buyer of drugs is disposed to deprecate any lot that the seller cannot guarantee as strictly U. S. P., even though the former knows that the use of a little more drug will yield an extract of full strength. Buyers are quick to take advantage of any situation like this and on the strength of some insignificant technicality will hold the Pharmacopoeia and the Food and Drugs Act as a club to the detriment of the honest drug dealer. Compilers of standards should never lose sight of the economic bearing of their work when they are developing the scientific features.

The introduction of complex methods for assaying essential oils of a purely flavoring nature is of doubtful expediency. These methods are of value to the buyer of oils in case he wants to know the quality of the commodity, but this subject comes more within the scope of food standards and methods for ascertaining them. However, as long as these flavoring agents are recognized as drugs, it is well to have good assay methods for determining their purity.

Comment will be made on a few individual descriptions and tests. The standard for oil of peppermint is altogether too limited in its scope. Oils of excellent flavoring quality distilled directly from the plant, often contain much less menthol than the ninth revision prescribes. The menthol in these oils is replaced by menthone which has no other effect in the oil than to take the place of the menthol, and in no way detracts from the real flavoring qualities due to the menthol esters which are still present. The chemical tests for cod-liver oil are really characteristic of the oil from the fresh livers of fish in general. The ninth revision limits the source of oil of theobroma to the seeds, but the shells of the cocoa bean contain an oil with practically the same composition, which can be used for the same purposes. Tons of this oil are annually wasted. No assay has been included for Sanguinaria. The reason for this is not apparent to one who has been familiar with methods for assaying this drug for many years. The assay of spirit of camphor is limited to natural camphor. A perfectly good spirit can be prepared with artificial camphor, but the use of the assay in the ninth revision would be of no value in determining its strength. The assay of spirit of nitroglycerin is open to criticism. The conclusions from the results obtained would depend largely upon the personal equation of the analyst, and if the commercial alcohol used in the preparation of the material contained any inert soluble substance in excess of that prescribed for pure alcohol of the text, the results would be erroneous. There are several good methods for determining accurately the percentage of nitroglycerin.

Before closing this review of the ninth revision, I want to include a few remarks concerning some of the drugs which are widely used but which have not been recognized. My acquaintance with drugs and chemicals has brought me in contact with a number of individual medicinal commodities for which I am often in need of standards, tests and descriptions, and which are not recognized. Some of these include:

Pinus strobus
Iris versicolor
Acorus calamus
Aletris farinosa

Chamaelirium luteum
Chelone glabra
Aralia racemosa
Panax quinquefolium

Asclepias tuberosa
Asarum canadense
Baptisia tinctoria
 Paracotoin

<i>Brauneria angustifolia</i>	<i>Rumex crispus</i>	Chinosal
<i>Castanea dentata</i>	<i>Scrophularia marilandica</i>	Digitoxin
<i>Cnicus benedictus</i>	Juniper berries	Lecithin
<i>Collinsonia canadensis</i>	Veronal	Novocaine
<i>Coptis trifolia</i>	Ichthyol	Acetyl Salicylic Acid
<i>Dioscorea villosa</i>	Chloretone	Nucleinic Acid
<i>Ilydrangea arborescens</i>	Alypin	Coto
<i>Melissa officinalis</i>	Atoxyl compounds	Piperazine compounds

They are all drugs which find a place in the *Materia Medica* of this country and are of much more therapeutic importance than the flavoring agents, condiments, chemical reagents, etc., for which standards and tests have been carefully provided. I realize that many of the botanical drugs have been recognized and described in the National Formulary for which much commendation is due the National Formulary. I also realize that some of the others are products, the manufacture of which is covered by a patent, but I see no reason why this should prevent the inclusion of a valuable drug among the standards of this country. No chemical can be patented. Its designation under its true chemical name is always free. A method of manufacture can be patented and a fanciful name can be trademarked. But why does this prevent recognition of a drug under its true chemical designation, giving its fanciful name as a synonym if desirable? It may be argued that the manufacturers object. But what is the force of this argument if the drug is well established in our *Materia Medica* and the control of standards and the traffic in drugs has been recognized by our Congress and the standards for these drugs based on the *Pharmacopoeia* and the National Formulary. Thus far the compilation of these standards has been delegated to responsible bodies and the results of their work have been vouchsafed by the courts. In this connection I was interested in the report of the Agricultural Appropriation Bill just introduced in Congress, wherein a sum is asked for the purpose of determining standards of drugs not recognized by the *Pharmacopoeia*.

My work with drugs and medicines brings me in contact with a great many different substances. When I want information concerning them, their description, their standards, how to test them and the methods to use, I want some authority to which to turn. To what extent does the *Pharmacopoeia*, ninth revision, furnish the data? This is the test of the *Pharmacopoeia* from the standpoint of the drug and medicinal chemist. The ninth revision as an analytical work and book of standards is going to be a great help as far as it goes, except for the unfortunate circumstance of the introduction of the loosely worded methods of drug assaying. As a standard for drugs it is going to be altogether too limited in its scope. It has devoted too much space to prescribing standards for chemical reagents, food products and substances which are purely mechanical in their application to pharmacy and which do not fall within the definition of drug as laid down in the Food and Drugs Act, and has left out a vast number of very important drugs and chemicals in daily use in medical practice both in this country and those lands to which our drugs are exported.

THE METRIC SYSTEM IN RELATION TO INDUSTRIAL PREPAREDNESS.*

BY J. W. ENGLAND.

Across the waters of the Great Deep there is now raging one of the most terrible wars in history. No man knows when or how it will end, but one thing is sure and this is that it *will* end and that it will be followed by another war—the war of trade. Vulcan will supercede Mars. And this war—a war of peace—on the part of Europe and other nations, will be a war for life and growth and development, and it will be waged chiefly and directly against this country. It will be the rest of the world against the United States. Unquestionably, the ending of the European War will produce an industrial crisis in this country, but this country has never failed in the past to meet any crisis, and it will not fail in the future.

But it behooves the American people to prepare for the crisis by putting their industrial houses in order. They must prepare themselves not only for the defense of the nation, but also, along scientific, industrial and financial lines to the end that the wonderful natural resources of this country may be conserved and utilized to the best advantage, that manufacturing industries may be encouraged toward better growth and development and that our export trade may be made worthy of this great nation. The United States cannot isolate itself in the future, commercially. It must develop a world-wide commerce.

The American business man who wants to do an export business has a whole lot to learn from his European competitors. He must give the foreign buyer what the latter wants, not what he (the American business man) wants. He must ship as the foreign buyer wants shipments made. He must give longer credits. And he must give a service that completely satisfies.

In all foreign trade, except that of Great Britain, the metric system of weights and measures is used almost exclusively, and if the American wants to do an international trade he must manufacture his goods in metric units, and when he does this, he will see the folly of using two systems of weights and measures, the older and the new; and he will be in favor of making the use of the metric system compulsory in this country, as he will not want to manufacture goods in two different systems, one for export trade and one for home trade.

Now what has retarded the general adoption and use in this country of what is admittedly the simplest and most scientific of all the systems of weights and measures in the world, a system whose value was legally recognized in the U. S. Government Service half a century ago?

It has been probably an inherent dislike on the part of the American people to change the every-day methods of doing things unless this has to be done, and it has been, also, the absurd system of exact equivalents that has been used to express the relative values of the two systems. Furthermore, no account has been taken of the fundamental habit of the American to *write* in units and decimals, and *speak* in units and fractions—a hybrid practice, if you will, but *still* one

* Read before the Metric Conference, New York City, December 29, 1916.

to be reckoned with. The American has not been taught to *think* in metric terms; he has been taught to use only equivalents, and this has been a serious mistake.

The American people have been using a metric system of currency for the past century, and would never consent to use a pound-shilling- and pence-system. When an American *writes* his currency, he uses units and decimals; when he speaks he uses units and fractions. Thus he writes \$1.25, \$2.50 and \$3.75; he does not write, respectively, one dollar and twenty-five hundredths, two dollars and fifty hundredths, and three dollars and seventy-five hundredths; and he *speaks* of $1\frac{1}{4}$ dollars, $2\frac{1}{2}$ dollars and $3\frac{3}{4}$ dollars. He does not say 0.25, 0.50 and 0.75 of a dollar, but 25, 50 and 75 cents, or $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ dollars, respectively.

It seems to me that any attempt to popularize the metric system and bring it into common use must take into account this national characteristic.

Of course, the user of the Metric System should have a reasonably accurate conception of the relative values of the metric units in comparison with the older units to which he has been accustomed, but it is sufficient for all practical purposes, to remember that a *meter* is about 1 *yard* (39.371 inches), a *liter* is about 1 *quart* (2.1135 pints), and a *kilo* is about 2 *pounds* (2.2045 pounds). Then, the American housewife could order her dress goods in meters and fractions of the same, and her household goods in kilos and fractions for solids, and in liters and fractions for liquids, and in a very short time would become as familiar with metric units and fractions as with the American dollar and cents.

The big thing in using the metric system is to use as few terms as possible and to *think* in these terms and fractions or decimally, and then the use of the metric system will become as absurdly simple as the use of the American system of currency.

Colonel George W. Burr, U. S. A., Commandant at the Rock Island Arsenal, has had the following "sermonette" placarded in all the shops there. It is an appeal which is directed to everyone:

I am more powerful than the combined armies of the world.

I have destroyed more men than all the wars of the world.

I am more deadly than bullets, and I have wrecked more homes than the mightiest of siege guns.

I steal, in the United States alone, over \$300,000,000 each year.

I spare no one, and I find my victims among the rich and poor alike; the young and the old; the strong and weak; widows and orphans know me.

I loom up to such proportions that I cast my shadow over every field of labor from the turning of the grindstone to the moving of every train.

I am relentless. I am everywhere — in the home, on the street, in the factory, at railroad crossings, and on the sea.

I bring sickness, degradation and death, and yet few seek to avoid me.

I destroy, crush or maim; I give nothing, but take all.

I am your worst enemy.

I AM CARELESSNESS.

SYRUPS AND ELIXIRS OF THE U. S. P. IX AND N. F. IV.*

BY E. FULLERTON COOK, P.D.

U. S. P. SYRUPS AND ELIXIRS.

Aromatic Elixir.—This formula remains unchanged. It is unfortunate that the Purified Talc, which is not a satisfactory filtering medium, was not replaced by Purified Siliceous Earth (Kieselguhr), which has been made official. This latter substance greatly increases the speed of filtration and also clarifies the elixir promptly, requiring only the return of the first portion passing through the filter to insure a brilliantly clear elixir.

Elixir of Glycyrrhiza.—The most important change is in title—from Elixir Adjuvans (Adjuvant Elixir) to Elixir of Glycyrrhiza; 125 mls of the Fluidextract of Glycyrrhiza is used instead of the 120 mls of the U. S. P. VIII. This preparation now replaces the N. F. III Elixir of Glycyrrhiza.

Elixir of the Phosphates of Iron, Quinine, and Strychnine.—The omission of the Elixir of the Phosphates of Iron, Quinine and Strychnine is the most striking fact to record concerning the U. S. P. Elixirs. After much discussion this was omitted, first, because the combination of iron, quinine and strychnine in phosphate form introduces numerous complications in manufacture and is the cause of difficulty in producing a permanent elixir. Second, the N. F. contained a formula for an Elixir of Iron, Quinine and Strychnine, which was easily made and did not change in color nor precipitate. Third, physicians on the Committee contended that the phosphate present in such minute amount did not possess any special therapeutic value. Fourth, it was stated that the reputation for an Elixir of the Phosphates of Iron, Quinine and Strychnine was based upon an Elixir which contained no phosphate, except upon the label, and finally, fifth, because the several formulas of the U. S. P. and N. F. caused confusion, and it was hoped that with the entire omission of the formula from the U. S. P., the N. F. formula would alone survive.

Simple Syrup.—No change except that the percolation process has been placed first, presumably to show preference for that method.

Syrup of Acacia.—The only change in this formula is found in the details of manufacture. After the acacia and sugar have been dissolved, they are subjected to sterilization (100° C. for fifteen minutes), and preserved in small, sterilized bottles.

Syrup of Citric Acid.—No change in formula, but the product is to be preserved in bottles previously rinsed with boiling water and "the syrup must not be dispensed unless free from moulds and fermentation products."

Syrup of Hydriodic Acid.—The method of preparation is not changed but the strength has been increased from 1 percent by weight of hydriodic acid to from 1.3 Gm. to 1.45 Gm. in each 100 mls, equivalent to about 1.13 percent by weight, or 1.25 percent by volume, of hydriodic acid. This change brings the U. S. P.

* Read before the Philadelphia Branch of the A. Ph. A.

syrup into closer conformity in strength with other largely sold syrups of hydriodic acid.

Syrup of Almond.—This syrup was omitted since it was little used and no longer really represented "Orgeat Syrup," which is made from blanched almonds and has the appearance of an emulsion.

Syrup of Orange.—In this syrup the magnesium carbonate was replaced by purified talc since the alkaline carbonate was found to injure the delicacy of the orange flavor. No other change was made.

Syrup of Calcium Lactophosphate.—A portion of the sugar in the formula was replaced by glycerin. No other change.

Syrup of Ferrous Iodide.—Although many experiments were made upon this syrup, citric acid being especially recommended as a preservative instead of hypophosphorous acid, it was finally decided to retain the formula of the U. S. P. VIII, which had been very satisfactory, with but one modification, that is, the amount of sugar was reduced from 600 Gm. to 575 Gm.

Syrup of the Phosphates of Iron, Quinine and Strychnine.—Easton's syrup was not admitted to the U. S. P. IX, but has been recognized in the N. F. IV, the U. S. P. 1890 process being revived.

Syrup of Hypophosphites.—Here the lemon flavor has been dropped and 50 Gm. of the sugar replaced by 50 mils of glycerin. This will assist in its preservation, as it has been shown that small quantities of glycerin retard mould development in preparations of this kind. It might be desirable to mention here that this syrup may be made advantageously by mixing the hypophosphites with the sugar and percolating the mixture with the glycerin-water mixture. A clear filtered syrup is thus produced with little trouble or danger of contamination from dust and other foreign substances.

Compound Syrup of Hypophosphites.—This syrup has been transferred to the N. F. IV.

Syrup of Ipecac.—The formula for the syrup has not been changed although the formula for the fluidextract of ipecac had been devised especially to make a product which would be miscible with syrup without the further addition of acid. As it now stands, the fluidextract contains about one percent of hydrochloric acid and one percent of acetic acid is added to the syrup in addition. This is a case where two Sub-committees did not or would not harmonize their work.

Syrup of Krameria.—Transferred to the N. F. IV.

Syrup of Lactucarium.—No change in the formula.

Syrup of Tar.—The only striking changes are that the tar is no longer mixed with sand and washed with water before solution in alcohol, and the alternative percolation method is added. Tar of U. S. P. quality should not require water-washing and hence the omission of this detail.

Syrup of Wild Cherry.—The pendulum has again swung back and now the glycerin is to pass through the drug during percolation. It seemed that the U. S. P. VIII method, which placed the glycerin in the receiving bottle, to serve only as a preservative, and percolated the wild cherry with water, did not yield a syrup of sufficient color to satisfy those who liked it to "look strong." Glycerin, however, also takes out the tannin and the syrup made by the new method does not have so pleasant a flavor.

Syrup of Rhubarb and Aromatic Syrup of Rhubarb.—No change.

Syrup of Rose and Syrup of Rubus.—Transferred to the N. F. IV.

Compound Syrup of Sarsaparilla.—Here the oils are dissolved in a small quantity of alcohol and this solution added to the mixed fluidextracts and afterward to sufficient syrup. The U. S. P. VIII mixed the oils and fluidextracts with the water, filtered and dissolved the sugar in the filtrate. The new formula is a decided improvement in speed and simplicity of manufacture.

Syrup of Squill.—No change.

Compound Syrup of Squill.—Here again, as in the Compound Syrup of Sarsaparilla, the fluidextracts and solution of tartar emetic are mixed directly with syrup instead of first preparing an aqueous solution in which to dissolve the sugar as was directed in the U. S. P. VIII.

Syrup of Senega and Syrup of Senna.—No change in formula although the several fluidextracts were reconstructed with the special object of rendering them miscible with syrup.

Syrup of Tolu and Syrup of Ginger.—No changes.

N. F. SYRUPS AND ELIXIRS.

Anything to be said upon the large group of N. F. Elixirs and Syrups, in a paper of this character, must be much curtailed or the length will become prohibitive. Reference therefore will be made only to those preparations where a marked change has been made.

Bromide Elixirs.—This group, including Ammonium Bromide, Calcium Bromide, Lithium Bromide, Potassium Bromide and Sodium Bromide, of the former N. F., were all criticized because of their large alcoholic content, which counteracted the sedative effect of the bromide. The Committee first proposed to correct this by using as the vehicle—elixir a new, low-alcoholic strength elixir, flavored with cardamom and vanillin. This elixir has been made official but the Committee finally decided to retain the old aromatic elixir flavor, which had become well established, but they reduce the alcoholic content by using 20 percent of syrup and 46 percent of water with enough aromatic elixir to make 100 parts. This decision is open to the criticism that the flavor is much reduced and does not well cover the taste of the bromide.

Low-alcoholic Percent Elixirs.—Recognizing that elixirs were often too strongly alcoholic, especially those containing aromatic elixir, the Committee have offered several new vehicle-elixirs of low-alcoholic strength. They are Compound Elixir of Almond (about five percent alcohol), Compound Elixir of Cardamom (about 10 percent alcohol), Aqueous Elixir of Glycyrrhiza (about 5 percent alcohol), and Compound Elixir of Vanillin (about 10 percent alcohol). Pharmacists generally should call the attention of physicians to these new elixirs and send out samples for their inspection.

Red Aromatic Elixir.—A new red vehicle-elixir has been admitted, prepared by digesting 2 Gm. of cudbear in 1000 mls of aromatic elixir. This is the same color as the much used Digestive Elixir which has been omitted from the new edition.

Elixir of Bitter Orange.—This preparation, formerly called Elixir of Curaçao, is now termed "Elixir of Bitter Orange." The flavor has also been materially changed.

Elixir of Glycerophosphates.—Note that this title of the N. F. III has been changed to Elixir of Calcium and Sodium Glycerophosphate. This would seem to be an unnecessary lengthening of the title as it was well known and the U. S. P. Syrup of Hypophosphites provided a precedent for such a title.

Elixir of Cinchona Alkaloids.—To meet a Government criticism of misbranding, this title was changed from Elixir of Cinchona to Elixir of Cinchona Alkaloids. It is unfortunate that the more cumbersome title had to be adopted for it will never be popular among prescribers, especially the compound titles, such as Elixir Cinchonae Alkaloidorum, Ferri, Bismuthi et Strychninae.

Elixir of Formates and Compound Elixir of Formates.—These two new formulas should receive the approval of pharmacists since the carbonates of the several bases are used and converted into formates through the use of formic acid, thus avoiding the stocking of five new salts of formic acid. The new elixirs are excellent preparations, pharmaceutically.

Elixir of Gentian.—A new formula is offered here which is a vast improvement over that of the N. F. III. The treatment with ferric hydroxide to prevent discoloration when mixed with iron preparations is rendered unnecessary through the addition of sodium citrate and, in the Elixir of Gentian and Iron, the use of tincture of ferric citro-chloride. This simplifies the process and also retains the bitterness of the gentian which was much impaired through the former treatment with ferric hydroxide.

Compound Elixir of Glycerophosphates.—This new formula has already proven useful to many pharmacists and is an excellent pharmaceutical product.

Essence of Pepsin should now be recognized under its new title, "Compound Elixir of Pepsin and Rennin." The formula has been slightly altered, oil of myristica being added. This title will place the preparation upon its merits and the unscientific title, "Essence" for this class of preparation will be corrected.

Elixir of Terpin Hydrate.—The new formula for this elixir will be found more satisfactory than that of the N. F. III from which sugar persistently crystallized. Note that the amounts of codeine and of diacetylmorphine hydrochloride or heroin in the compound elixirs have been reduced to conform to the requirements of the Harrison Act.

Elixir of Three Bromides is a new formula with about 15 grains of the combined bromides to the teaspoonful.

Among the syrups attention may be called advantageously to the following:

Syrup of Ammonium Hypophosphite.—This new syrup has a distinctive flavor that should enable it to win its own place, if there is any special merit in the preparation.

Compound Syrup of Figs has been added containing figs, senna and aromatic fluidglycerate of cascara sagrada with the oils of fennel and peppermint.

Syrup of Iodotannin.—This new combination of iodine, which has been used abroad and is official in the French Codex, has been introduced.

Compound Syrup of White Pine.—This formula has been much improved and the morphine is omitted unless prescribed under the new title of Compound Syrup of White Pine with Morphine.

Syrups of Blackberry Fruit and Raspberry Fruit.—These are two new fruit syrups added to N. F. IV.

PHARMACEUTICAL FORMULAS

PROPOSED FOR A. PH. A. RECIPE BOOK.

A complete list of these Proposed Formulas since February, 1912, was published in an Index in the December, 1916, number of the JOURNAL. The Committee will continue its work in monthly instalments in this Department of the JOURNAL. Members of the A. Ph. A. are earnestly requested to send suitable formulas and also criticisms of those published to the Chairman, Otto Raubenheimer, Brooklyn, N. Y.

FLAVORING EXTRACTS.

Contributed by Prof. W. L. Scoville, Detroit:
No. 391.

ALMOND.

Oil of Bitter Almond (free from hydrocyanic acid)..... 20 mls
Sherry Wine, N. F. IV..... 980 mls
Mix.

Note: Benzaldehyde may be used in place of the acid-free oil of bitter almond, and any white wine containing 18 to 20 percent of alcohol in place of sherry wine.

No. 392.

CELERY.

Oil of Celery..... 10 mls
Alcohol..... 650 mls
Water, a sufficient quantity,

To make..... 1000 mls
Mix and filter.

No. 393.

CINNAMON.

Oil of Cinnamon..... 20 mls
Alcohol..... 700 mls
Water, a sufficient quantity,

To make..... 1000 mls
Mix and filter.

No. 394.

CLOVE.

Oil of Clove..... 20 mls
Alcohol..... 600 mls
Water, a sufficient quantity,

To make..... 1000 mls
Mix and filter.

No. 395.

GINGER, SOLUBLE.

Ground Ginger. 200 Gm.
Diluted Alcohol, a sufficient quantity,

To make..... 1000 mls

Make a tincture by percolation in the usual manner. Caution: *Do not label "Tincture of Ginger."*

No. 396.

LEMON.

Oil of Lemon..... 50 mls
Lemon Peel, outer layer only..... 50 Gm.
Alcohol, a sufficient quantity,

To make..... 1000 mls
Mix, allow to stand 48 hours and filter.

No. 397.

LEMON, SOLUBLE.

Concentrated Oil of Lemon (Terpeneless)..... 5 mls
Turmeric..... 5 Gm.
Alcohol 500 mls
Water, a sufficient quantity,

To make..... 1000 mls
Mix the oil and alcohol, add the turmeric, allow to stand 24 hours, then add the water, again allow to stand 24 hours, with occasional shaking, then filter.

Note: Not allowed in interstate commerce unless properly labeled.

No. 398.

NUTMEG.

Oil of Nutmeg..... 20 mls
Alcohol..... 700 mls
Water, a sufficient quantity,

To make..... 1000 mls
Mix and filter.

No. 399.

ONION.

Oil of Garlic..... 0.5 ml
Tincture of Asafetida..... 350 mls
Alcohol..... 200 mls
Purified Talc..... 25 Gm.
Water, a sufficient quantity,

To make..... 1000 mls

Mix the oil, alcohol and tincture and gradually add the water. Then add the talcum, shake occasionally for a few hours, and filter.

No. 400.

ORANGE.

Oil of Orange..... 50 mls
Orange Peel, outer layer only..... 50 Gm.
Alcohol, a sufficient quantity,

To make.....1000 mls

Mix, allow to stand 48 hours, with occasional shaking, and filter.

No. 401.

ORANGE, SOLUBLE.

Concentrated Oil of Orange (Ter-
peneless)..... 5 mls
Solution of Cochineal..... 1 mil
Tincture of Caramel, N. F. IV..... 2 mls
Alcohol..... 500 mls
Water, a sufficient quantity,

To make.....1000 mls

Mix the oil with the alcohol, add the water gradually and finally the color.

No. 402.

PISTACHIO.

Oil of Neroli..... 0.4 mil
Extract of Almond..... 350 mls
Extract of Vanilla..... 650 mls
Mix.

No. 403.

PISTACHIO.

Concentrated Oil of Orange (Ter-
peneless)..... 1 mil
Concentrated Oil of Lemon (Ter-
peneless)..... 6 mls
Oil of Nutmeg..... 6 mls
Oil of Sassafras..... 4 mls
Oil of Clove..... 1 mil
Oil of Bitter Almond..... 4 mls
Extract of Vanilla, a sufficient quan-
tity,

To make.....1000 mls

Mix and filter.

No. 404.

TINCTURA VANILLINI COMPOSITA COMPOUND TINCTURE OF VANILLIN.

N. F. III.

Vanillin..... 6.5 Gm.
Coumarin..... 0.4 Gm.

Alcohol..... 200 mls
Glycerin..... 125 mls
Syrup..... 125 mls
Compound Tincture Cudbear..... 16 mls
Water, a sufficient quantity,

To make.....1000 mls

Dissolve the vanillin and coumarin in the alcohol, add the other ingredients and filter.

Many prefer this preparation to Tincture of Vanilla, formerly official in U. S. P., and now in N. F. IV.

No. 405.

VANILLA WITH TONKA.

Vanilla Beans, cut fine..... 60 Gm.
Tonka Beans, ground..... 40 Gm.
Diluted Alcohol, a sufficient quantity,

To make.....1000 mls

Make a tincture, by percolation, in the usual manner.

No. 405A.

GINGER.

From Oleoresin.

Oleoresin of Ginger..... 10 Gm.
Alcohol, a sufficient quantity,

To make.....1000 mls

Dissolve.

Note: This, by no means, is the equivalent of Tincture of Ginger, U. S. P., and should not be sold as such.

No. 406.

FLAVORING POWDERS AND PASTES.

These have sugar as a base, and are made to correspond in strength to the flavoring extracts.

Flavoring Powder of Almond is made by triturating 20 mls of oil of bitter almond with 980 Gm. of powdered sugar.

Ginger, by triturating 10 Gm. of oleoresin of ginger with 990 Gm. of powdered sugar.

Lemon, by mixing 50 mls of natural oil, or 5 mls of concentrated or "terpeneless" oil of lemon with powdered sugar to make 1000 Gm., and tinting the powder yellow with turmeric or saffron.

These powdered flavors are used to avoid the alcohol in the extracts.

If a paste is desired mix in enough glycerin to obtain a paste of the desired consistency—or better, make a paste with a mixture of equal parts of glycerin and syrup.

Powders and pastes are more sensitive to

exposure than liquid extracts and must be kept in tightly closed containers. Pastes are dispensed, preferably, in collapsible tubes, and are sometimes made stronger to facilitate their use.

Contributed by John K. Thum, Philadelphia:

No. 407.

PULVIS ANTISEPTICUS ADSTRINGENS.

German Hospital, Phila.

Sodium Borate.....	600 Gm.
Alum, dried.....	400 Gm.
Phenol.....	5 Gm.
Thymol.....	5 Gm.
Menthol.....	5 Gm.
Eucalyptol.....	5 mls
Methyl Salicylate.....	5 mls

This powder is used as a douche in the proportion of 5 to 10 Gm. dissolved in a liter of water. It is very popular with physicians, who favor a mildly alkaline and astringent solution for many vaginal conditions.

No. 408.

BALSAM SOLUTION NO. 1.

German Hospital, Phila.

Oil of Pine.....	2 mls
Oil of Eucalyptus.....	4 mls
Oil of Cinnamon.....	1 mil
Menthol.....	1 Gm.
Comp. Tincture of Benzoin.....	46 mls
Tincture of Benzoin.....	46 mls

To be used in vaporizer.

No. 409.

CHLORETONE INHALANT.

German Hospital, Phila.

Chloretone.....	1 Gm.
Camphor.....	10 Gm.
Menthol.....	10 Gm.
Oil of Cinnamon.....	1 mil
Liquid Petrox.....	18 mls
Liquid Petrolatum.....	160 mls

No. 410.

ELIXIR ACETANILIDUM COMPOSITUM.

German Hospital, Phila.

Acetanilid.....	20 Gm.
Caffeine, alkaloid.....	2 Gm.
Sodium Bromide.....	60 Gm.
Aromatic Elixir, a sufficient quantity,	

To make.....1000 mls

No. 411.

MISTURA AMMONII CARBONATIS.

German Hospital, Phila.

Ammonium Carbonate.....	2 Gm.
Morphine Sulphate.....	0.05 Gm.
Tincture of Lobelia.....	4 mls
Distilled Water.....	20 mls
Syrup, a sufficient quantity,	

To make.....100 mls

No. 412.

MISTURA ANTIDIARRHOEA.

German Hospital, Phila.

Prepared Chalk.....	3 Gm.
Tincture of Kino.....	5 mls
Camphorated Tincture of Opium....	3 mls
Comp. Tincture of Cardamom.....	10 mls
Spirit of Chloroform.....	5 mls
Peppermint Water.....	40 mls
Syrup of Orange, a sufficient quantity,	

To make.....100 mls

No. 413.

MISTURA ANTIGOUT.

German Hospital, Phila.

Morphine Sulphate.....	0.10 Gm
Potassium Iodide.....	5 Gm.
Wine of Colchicum Root.....	10 mls
Aromatic Elixir.....	50 mls
Distilled Water, a sufficient quantity,	

To make.....100 mls

No. 414.

MISTURA ANTIRHEUMATICA.

German Hospital, Phila.

Potassium Iodide.....	5 Gm.
Wine of Colchicum Root.....	15 mls
Comp. Tincture of Cardamom.....	15 mls
Aromatic Elixir, a sufficient quantity,	

To make.....100 mls

No. 415.

MISTURA BISMUTHI ET COCAINAE.

German Hospital, Phila.

Bismuth Subnitrate.....	10 Gm.
Cocaine Hydrochloride.....	0.1 Gm.
Syrup of Acacia.....	40 mls
Peppermint Water, a sufficient quantity,	

To make.....100 mls

No. 416.

MISTURA TUSSI.

Children's Hospital Cough Mixture.
German Hospital, Phila.

Aromatic Spirit of Ammonia.....	2.5 mls
Syrup of Senega.....	6 mls
Syrup of Ipecac.....	6 mls
Syrup of Tolu.....	6 mls
Camphorated Tincture of Opium...	1.5 mls
Comp. Tincture of Cardamom.....	4 mls
Syrup.....	35 mls
Anise Water, a sufficient quantity,	

To make..... 100 mls

No. 417.

MISTURA ANTIFEBRIFUGA.

Children's Hospital Fever Mixture.
German Hospital, Phila.

Potassium Citrate.....	4 Gm.
Spirit of Nitrous Ether.....	15 mls
Syrup of Lemon.....	15 mls
Solution of Ammonium Acetate.....	60 mls
Distilled Water, a sufficient quantity,	

To make..... 100 mls

No. 418.

MISTURA CODEINAE COMPOSITA.

German Hospital, Phila.

Codeine Sulphate.....	0.1 Gm.
Diluted Hydrocyanic Acid.....	2 mls
Syrup of Lemon.....	50 mls
Distilled Water, a sufficient quantity,	

To make..... 100 mls

No. 419.

MISTURA DIURETICA.

German Hospital, Phila.

Caffeine, alkaloid.....	5.5 Gm.
Sodium Salicylate.....	4.5 Gm.
Distilled Water, a sufficient quantity,	

To make..... 100 mls

No. 420.

MISTURA GLYCYRRHIZAE COMP. CUM AMMONII CHLORIDO.

German Hospital, Phila.

Ammonium Chloride.....	5 Gm.
Brown Mixture.....	100 mls

No. 421.

MISTURA COPAIBAE.

Modified Lafayette Mixture.
German Hospital, Phila.

Copaiba.....	200 Gm.
Solution of Potassium Hydroxide...	75 mls
Spirit of Nitrous Ether.....	300 mls
Fluidextract of Glycyrrhiza.....	150 mls
Methyl Salicylate.....	10 mls
Camphor Water, a sufficient quantity,	

To make..... 1000 mls

No. 422.

MISTURA HYDRARGYRI ET POTASSII IODIDI

Dr. Uhle's Formula.

German Hospital, Phila.

Mercuric Iodide.....	0.06 Gm.
Potassium Iodide.....	10 Gm.
Comp. Tincture of Gentian, a sufficient quantity,	

To make..... 100 mls

No. 423.

MISTURA HYDRARGYRI CUM RHEO.

Mixture of Blue Mass and Rhubarb.

German Hospital, Phila.

Powdered Blue Mass.....	2 Gm.
Aromatic Syrup of Rhubarb.....	100 mls

No. 424.

MISTURA STAPHISAGRIAE ET SPIRITUS MYRCIAE.

Stavesacre and Bay Rum.

German Hospital, Phila.

Tincture of Staphisagria.....	100 mls
Bay Rum.....	100 mls

No. 425.

TINCTURA STAPHISAGRIAE.

Tincture of Stavesacre.

German Hospital, Phila.

Stavesacre, ground.....	200 Gm.
Alcohol, a sufficient quantity,	

To make..... 1000 mls

Macerate the ground stavesacre with 150 mls of alcohol for 24 hours, then pack firmly in a cylindrical percolator and continue passing alcohol through the ground drug until one thousand mls of tincture are obtained.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

CHICAGO.

The regular monthly meeting of the Chicago Branch American Pharmaceutical Association was held at the College of Pharmacy building, 701 S. Wood St., Friday, December 15.

The subject of the evening was the A. Ph. A. Recipe Book, and a large number of formulas were presented for discussion, including especially formulas for ointments and photographic materials. Wm. Gray and I. A. Becker, both members of the Committee on A. Ph. A. Recipe Book, took leading parts in the discussion.

During the discussion an objection was raised by Dr. Bernard Fantus to the names of some of the formulas submitted by Mr. Gray because they indicated the use of the preparation, *e. g.*, Goiter Ointment, Keratoplastic Ointment, etc. The late Professor Hallberg had shown how undesirable it was for the name of a preparation to suggest its use. He claimed and justly so, that if suggestive names were eliminated, it would knock the bottom out of the proprietary medicine business. There is another objection to such names,—they are dishonest. The goiter ointment submitted does not cure goiter as the name would suggest. You can vouch for the ingredients of any preparation but you cannot vouch for the therapeutic or curative effect. It would therefore be a good principle to adopt that the Recipe Book should not include titles suggesting medicinal use.

The question of the use of any proprietary mixture in a formula to be included in the Recipe Book also aroused discussion, and it was pretty well agreed that no such mixtures should be named in the book. Formulas might be included, if it was thought advisable, for preparations of known medicinal value and which every pharmacist could and should be able to make for himself.

Professor Day called attention to the action of the Association in providing for the publication in the December JOURNAL of an Index to the formulas so far submitted and which

would provide a basis for further constructive efforts.

The discussion brought up the question of scope and the general opinion of the meeting was that the Committee should review the papers and discussions already published relating to the Recipe Book, and formulate and publish in the JOURNAL for discussion a statement of the scope of the book.

The work of the Committee so far published received a very general approval. The division of the work of collection of formulas among the members of the Committee as has been done by Chairman Raubenheimer and the provision made for a practical testing out of the formulas submitted indicate real progress on the part of the Committee. The Committee should guarantee every formula that is finally submitted to the Association for approval to be pharmaceutically correct.

The Chicago Branch desires to express to the Committee its appreciation of the work already done and to offer its cooperation in bringing to an early completion this next great publication of the American Pharmaceutical Association.

E. N. GATHERCOAL, *Secretary*.

INDIANAPOLIS.

At the December meeting of the Indianapolis Branch of the American Pharmaceutical Association, H. S. Noel, of the Advertising Department of Eli Lilly & Company, discussed "Retail Drug Store Advertising."

Mr. Noel outlined the fundamentals of drug store publicity by citing the necessity of a proper foundation upon which to build. The basis of all drug store advertising, the speaker said, is made up of promotion work that is costless but highly essential if proper returns are to be had from the business.

The druggist who secures the best returns from his advertising expenditures, according to Mr. Noel, must first see to it that customers are sold quality merchandise; that the store

is the embodiment of cleanliness; that both himself and his clerks are courteous and accommodating; that salesmanship is well developed; and that stock is kept up and properly displayed.

Poor buying, slow turnover, bad accounting methods, cheap merchandise, and neglect of costless advertising opportunities were given as chief reasons for the lack of success in many drug stores.

The speaker laid special stress on the importance of good window displays and called attention to their value as trade winners. He also spoke of the need of price tickets on goods in the windows and outlined in a general way the proper arrangement and selection of goods best adapted to windows that are intended to act as money magnets.

The value of a name was another subject that received attention, and the speaker was strong in the belief that whenever possible the druggist should feature his own first. The selection of a good selling slogan and how to capitalize on it was also advised.

Constant advertising, said Mr. Noel, is necessary. It has been his observation that many druggists advertise when business is dull and then claim that advertising does not pay them.

Taking advantage of the national advertising that is constantly appearing, and exploiting nationally advertised goods the druggist carries is good publicity to connect with, said the speaker; the dealer helps should be used to the best advantage and made to serve the purpose for which they are intended.

In conclusion, the speaker took up the matter of how much to spend a year in advertising and emphasized the importance of careful planning, the selection of ways and means, and the preparation of copy. Mailing lists, said Mr. Noel, are the most valuable adjunct the neighborhood store has. He told of the best ways of building a mailing list, of the importance of keeping it up-to-date and discussed the commercial value of personal note letters under a two cent stamp, at the same time mentioning various drug store items that could be made especially productive by means of mailing lists.

Following Mr. Noel's paper a discussion was led by E. R. Stucky. Others who took part were H. W. Carter, E. C. Reick, Maurice Schwartz, F. R. Eldred, Edward Merrell and F. H. Carter.

FRANCIS E. BIBBINS, *Secretary*.

NASHVILLE.

The regular meeting of the Nashville Branch of the American Pharmaceutical Association was held in joint session with the Nashville Drug Club in the parlors of the Nashville Business Men's Association, Thursday, December 7, 1916, when Mr. D. J. Kuhn presided. The minutes of the previous meeting were read and approved. The committee appointed to investigate the opening of drug stores by ex-saloon-keepers presented the following resolutions in making their report:

"WHEREAS the opening of new drug stores by unlicensed men for the apparent purpose of engaging in the liquor business and which debauches the profession of pharmacy to the level of the saloon-keeper, and whereas the open sale of liquors in these drug stores continues in open defiance of the law of the State of Tennessee, and whereas the city, county and state officials, whether willingly or not, do not under present conditions seem able to suppress the open violation of these laws, therefore, be it resolved by the Nashville Branch of the American Pharmaceutical Association and the Nashville Drug Club that they endorse and give full support to any additional legislation introduced by Governor Thomas Rye, or by an organization, that will fully suppress the illegal sale of liquor in drug stores, even to the extent of endorsing a law that will absolutely prohibit the sale of alcoholic and intoxicating liquors in drug stores, whether prescribed by a physician or not.

Be it further resolved that our legislative committees be instructed to support such legislation."

(Signed) S. C. DAVIS.
J. B. SAND.

After some discussion the resolutions were unanimously adopted. President D. J. Kuhn reported that a joint meeting of the legislative committees of the Nashville Drug Club, Nashville Branch of the American Pharmaceutical Association and the Tennessee State Pharmaceutical Association was recently held, and a bill aiming to correct these evils had been drawn up and would be presented to the State Legislature next month. Secretary William R. White reported that a motion was before the Council of the American Pharmaceutical Association that a committee be appointed for building headquarters for the Association. The idea was heartily endorsed by the members and the following committee

was appointed to present Nashville's claims as the proper place for the location of the headquarters: Ira B. Clark, S. C. Davis, J. B. Sand and William R. White.

It was announced that honorary president J. O. Burge of the A. Ph. A. was to-day celebrating the 50th anniversary of his entrance into the drug business. He was heartily congratulated.

WILLIAM R. WHITE, *Secretary*.

NEW ENGLAND.

The New England Branch of the American Pharmaceutical Association held its annual meeting for the election of officers on Wednesday evening, November 22, at the Massachusetts College of Pharmacy, Boston.

President F. W. Archer presided, and after business of a routine nature was transacted, officers for the year 1916-17 were elected. J. G. Godding as chairman of a committee on nominations, presented the following names as candidates for the various offices: *President*, R. Albro Newton; *Vice-President*, William H. Glover; *Secretary-Treasurer*, Hugh C. Muldoon; *Chairman of Committee on Professional Relations*, Carlton B. Wheeler; *Chairman of Committee on Membership*, Frank F. Ernst; *Representative on Council*, Elie H. LaPierre. Upon motion, a single ballot was cast for the nominees and they were declared elected.

After the newly elected officers had been installed, the meeting was adjourned and the members went into joint session with the Boston Association of Retail Druggists.

President R. Albro Newton presided at the joint meeting which proved to be of an exceedingly interesting character. The special topics for discussion were the syrups and tinctures of the U. S. P. IX. Papers were read by R. A. Newton and W. R. Acheson in which explanations of new processes were made and changes in the ingredients or strength of the various preparations were considered in detail. Many instructive points were brought out in the spirited discussion led by W. H. Glover and F. F. Ernst, which followed the reading of the papers. Much interest seemed to center about tinctures of cantharides, iodine and nux vomica, syrup of hydriodic acid, and the subject of biological assays.

So much interest was aroused by the discussion that it was decided to hold in the near future an "experience meeting" at which the

results of the various members' experiences with other preparations of the U. S. P. IX might be made known.

HUGH C. MULDOON, *Secretary*.

NEW YORK.

The November, 1916, meeting of the New York Branch of the American Pharmaceutical Association was held in the Library of the New York College of Pharmacy on Monday evening, the 13th, at 8.30 o'clock.

There were present twenty-six members, President Lascoff presiding.

The Secretary read the minutes of the previous meeting which were approved.

The Treasurer submitted his report, which showed a balance on hand of \$144.70.

Membership Committee.—The following five applications for membership in the parent association were received:

Charles A. Oates, 658 Ninth Avenue, New York, N. Y.

J. A. Valvano, 2059 First Ave., New York, N. Y.

B. C. Steves, 48 West 130th St., New York, N. Y.

Max Lapat, 35 West 32nd St., New York, N. Y.

B. J. Davis, 115 West 68th St., New York, N. Y.

Committee on Legislation and Education.—Dr. Anderson, Chairman, reported for this committee on the test case now pending in connection with the legality of rulings made by the Internal Revenue Department in relation to the Harrison Act. He also submitted reports on prospective anti-narcotic legislation and medical insurance.

Committee on Fraternal Relations.—Dr. Diner reported that a meeting had been held at his residence at which were present Drs. Squires, Dougherty and Bastedo representing the County Medical Society and Drs. Diner, Mayer and Mr. Lehman representing the Branch. Dr. Diner further reported that another meeting would be held in December; that the medical men were most enthusiastic over the proposed joint meeting and among the subjects suggested for papers at the joint meeting were: "Does the Physician Need the Pharmacist?" and "What Steps Shall We Take toward Better Mutual Understanding?" The joint meeting will probably be held in January or February. Upon motion duly seconded and carried, the outlined program was approved.

Progress of Pharmacy.—As usual, Dr. Dickman submitted a very interesting number of abstracts on the following subjects: Analysis of Rhamnus Barks; Hyoseyamus; Iodin-Starch Reaction; Identification of Ol. Tiglii; Acetaldehyde; Colloidal Carbon; etc.

After a lively discussion of Dr. Dickman's report, Mr. C. A. Mayo and Dr. H. V. Army, in place of the usual paper, discussed the proposed Metric Conference, at which many commercial organizations are to be represented. These include, among others, the wholesale druggists, manufacturers of hardware, the wholesale grocers, engineers, etc. Upon motion of Dr. Diner, which was duly seconded and carried, the following members were appointed as a committee to represent the Branch at the meeting of the American Association for the Advancement of Science to be held in December (26-29): Messrs. Diner, Mayer, Latham, Turner and Hostmann.

Upon motion, it was then voted to adjourn.

JEANNOT HOSTMANN, *Secretary*.

PHILADELPHIA.

The regular monthly meeting of the Philadelphia Branch of the A. Ph. A. was held Tuesday evening, November 15, 1916, at the Temple College of Pharmacy. President Sturmer called the meeting to order at 8.45, and the minutes of the previous meeting were read and approved.

Prof. C. H. LaWall proposed Miss Mabel Starr and Mr. Ivor Griffith for membership, and they were duly elected.

Mr. W. L. Cliffe, as Chairman of the Committee on Entertainment of Visiting Pharmacists, reported that their plans were successfully carried out, and that the small deficit incurred had been liquidated by the Committee. He also moved that votes of thanks be given to Mrs. Franklin M. Apple for her splendid assistance in entertaining the Ladies Section, and to the Philadelphia Chamber of Commerce and its Publicity Bureau for their hearty coöperation in the matter. The motion, on being seconded and put to vote, was unanimously passed.

Prof. Kraemer moved that the Local Branch extend to Mr. Cliffe a vote of thanks for the efficient manner in which he conducted the work of his committee; and this likewise received a unanimous vote.

The following letters from the Philadelphia County Medical Society were read:

PHILADELPHIA, PA., October 20, 1916.
DR. J. ED. BREWER, *Secretary*,
Philadelphia Branch A. Ph. A.,
Bryn Mawr, Pa.

DEAR DOCTOR:

At a business meeting of this Society held October 18th, the following resolution was introduced as follows, and adopted:

RESOLVED: That the Philadelphia Academy of Stomatology and the Philadelphia Branch of the American Pharmaceutical Society be requested to each appoint two delegates to coöperate with this Society and to attend its meetings.

I should therefore be glad to hear from you at your convenience the names of your delegates, should you decide to take favorable action.

Very truly yours,
(Signed) WILLIAM S. WRAY,
Secretary.

NOVEMBER 11, 1916.

DR. JULIUS STURMER,
Philadelphia College of Pharmacy,
Philadelphia, Pa.

MY DEAR SIR:

At the next meeting of the Philadelphia County Medical Society, to be held in the College of Physicians Building, 22nd Street above Chestnut, Wednesday, November 22nd, at 8.30 P.M., the question for discussion will be the Habit Evil. Mr. Francis Fisher Kane will present the legal status and legislation to be obtained at Harrisburg in this regard.

Dr. Doremus will present a paper on the Drug Habit among the better classes and its treatment, and Dr. Baldi, of Moyamensing Prison, will present a paper on the Drug Habit in the underworld.

We feel that the dentists, druggists and physicians are interested in this subject, and we should be very glad if you can spread the news among the members of the Philadelphia Branch of the American Pharmaceutical Association as we would be pleased to have any of your members who are interested attend this meeting.

Very truly yours,
(Signed) FRANK G. HAMMOND.

Prof. Remington moved that these letters be spread on the minutes of the Branch, and that we accept the invitation for November 22nd, with thanks, and that the President appoint two delegates, as suggested in the letter of October 20th. Also, that the Secretary

be instructed to acquaint our members of these invitations by mail.

Mr. England seconded the motion, and it was passed by vote.

Mr. George M. Beringer read an interesting and comprehensive paper on "The Galenicals of the U. S. P. IX."

Prof. Joseph P. Remington discussed the U. S. P. IX in a general manner.

The papers were interestingly discussed by Messrs. Cliffe, Apple, LaWall, Kraemer, McCartney, Cook, England, Minehart, and Pollard.

As the hour was becoming late, it was decided to postpone the other two scheduled papers until the December meeting, after which the meeting adjourned.

J. ED. BREWER,
Secretary.

At the last meeting of the Philadelphia Branch A. Ph. A., during a discussion on the question "What Disposition Shall be Made of the Year Book?" the following points were emphasized:

1. The A. Ph. A. gives each member more than his dues will pay for, hence each year there is a deficit. This must be met with an increase of revenue or decrease of expenditures. The former can be brought about only by an increase of dues; the latter, most feasibly either by discontinuing the Year Book, or publishing it in the JOURNAL from time to time.

2. The continuance of the Year Book is absolutely necessary for the progress of American Pharmacy, for it is only by the use of this and allied works that any progress is made. Were it not for this systematized and carefully indexed account of what has been done, information which can now be obtained in a few moments, would be available only after an extended time—and patience—consuming search through many journals.

In accordance with this view, the following resolution was proposed and adopted:

Resolved, That the Philadelphia Branch go on record as favoring the continuance of the JOURNAL and the Year Book, as at present, and that any deficit which might occur be met with an increase in dues; and further, that the Secretary be instructed to send copies of this resolution to the Council and to the secretaries of the various Local Branches.

Very truly yours,

J. ED. BREWER, *Secretary.*

PITTSBURGH.

Pittsburgh Branch of the American Pharmaceutical Association began its Winter series of meetings at the College of Pharmacy, November 24. The subject for the opening meeting was handled in a masterful manner by Dr. Louis Saalbach, "A Brief Review of the United States Pharmacopoeia."

Dr. Saalbach carefully analyzed the various changes, additions and deletions that characterize the U. S. P. IX, specific mention being made of a number of the changes in title of some preparations, and changes in processes of others. For the first time in the history of a pharmacopoeia, official abbreviations have been added under each title, the object being to promote uniformity, thereby preventing misinterpretation, and also to act as a guide in the labeling of shelf bottles. To avoid possibility of errors, attention is directed to the fact that the abbreviation *sulph* means sulphate; *chlor* means chloride; sulphur, sulphite and sulphide are not abbreviated, and for chlorate the work *chloras* is used.

Over two hundred items found in the previous work have been deleted from the U. S. P. IX, many of which will be found in the National Formulary. Sixty-seven new titles have been added, while about thirty have been dropped. Among the deletions some have been dropped because the Committee could not come to an agreement as to what the standard should be. In the latter class we find whisky, brandy and all wines. All preparations of iron, quinine and strychnine phosphate have been dropped, and these have not been given recognition in the National Formulary, the reason given being that pharmaceutically all such preparations are imperfect and unsatisfactory. Compound spirit of ether, familiarly known as Hoffman's Anodyne, has been deleted. In the formula for infusion of digitalis, the alcohol is omitted while the cinnamon water has been retained. In the preparation of solution of magnesium citrate, sodium bicarbonate may be used instead of potassium bicarbonate. The syrup of wild cherry has had its working formula in which glycerin is mixed with the menstruum restored.

Concerning the criticism that the book is too scientifically accurate for the average pharmacist, Dr. Saalbach said, "Inasmuch as it has been made the legal standard by the U. S.

Government it must, of necessity, be sufficiently accurate to stand results in courts of law. Taken all in all, the U. S. P. IX is a volume of which the revisers, as well as the pharmacists, may well be proud."

Discussing Dr. Saalbach's paper Dr. Koch said it was understood, although not officially announced, that owing to the unavoidable delay in issuing the book the authorities in charge of the pure food and drug laws will enter no prosecution based upon its official requirements until after January 1, 1917. In response to a query Dr. Koch further explained that while the National Formulary is also recognized as authority by the courts,

yet it is no part or not connected in any manner with the U. S. P.

Referring to the deletion of liquors from the U. S. P., Dr. Koch mentioned an instance where, in a prohibition state, a druggist had been prosecuted and punished for dispensing whisky on a legitimate prescription, because the court ruled, that as it was not found in the official book as a medicine it cannot be regarded as such. The fact was brought out that as mercurial antiseptic tablets must officially be blue, white tablets of that character cannot be legally dispensed after the authorities begin their inspection work.

B. E. PRITCHARD, *Secretary*.

WHAT IS KARAYA GUM?

During the last ten years a constantly increasing amount of this little-known gum has been imported into this country from India. It is known in the trade as karaya or kadaya gum, and is used extensively as a substitute for tragacanth. For a long time its botanical origin was in doubt, but it is now definitely known that it is the product of *Sterculia urens* Roxb., a tree of the cola nut family of plants. It has an extensive range of growth in northwestern India, Assam, Behar, the east and west Peninsula and in Ceylon. The tree is said to be very common in Konken, in the Bombay Presidency, and that Khandesh supplies the largest quantities of the gum to the Bombay markets.

Sterculia urens is a fine tree, forty feet or upward in height, with five-lobed, hand-shaped leaves, which yield a mucilaginous substance. The seeds, which are enclosed in a dry pod covered with stiff, bristly, stinging hairs, are used as an article of food among the natives of India. The bark is astringent and is used medicinally. The wood is soft and valuable for a great variety of purposes. Aside from the fact that the trunk produces a valuable gum, every part of the tree is useful. The living trees exude large quantities of gum which is variously known as karai, katira, katila, kadaya, karaya, kuteera, kutera, and kutira. According to some authors, it is also called kawali, pandruk, loli, gula, kahu, penari, and velley-putali. A gum similar in all respects to that produced by *Sterculia urens* and often mixed with that obtained from the latter, is produced by two other trees. *Sterculia villosa* and *Cocklospermum gossypium*. This gum belongs to the tragacanth series and in the powdered state is commonly mistaken for true gum tragacanth. In the whole condition it may be described as irregular, rounded, translucent lumps of a pale buff color; it never occurs in ribbon-like bands like true tragacanth. As an article of food or medicine it is distinctly inferior, but it is considerably cheaper and for this reason it has been used rather extensively in place of tragacanth, which is now selling for several dollars a pound; gum karaya in the whole state is now quoted at from 12 to 18 cents per pound, and the powdered gum for 16 to 24 cents. In India karaya gum is used extensively as a substitute for tragacanth, for making sweetmeats and also locally in the treatment of throat affections. In this country it is employed as an emulsifying agent, for which it is equal to tragacanth. Large quantities are used in ice creams and other foods. The gum is soluble in cold water, forms a tasteless mucilage, and is non-poisonous. The poorer grades are used exclusively by the calico-printers.—*Scientific American*.

COUNCIL BUSINESS

A. PH. A. COUNCIL LETTER NO. 1.

PHILADELPHIA, PA., September 30, 1916:
To the Members of the Council:

Motion No. 1 (Election of Members). You are requested to vote on the following applications for membership:

- No. 1. Thos. J. France, 42 Hart St., Brooklyn, N. Y., rec. by Hugo Kantrowitz and Frank L. McCartney.
- No. 2. Bertha Urdong, 52 St. Nicholas Ave., New York, N. Y., rec. by St. C. R. Gay and F. L. McCartney.
- No. 3. Martin Lester Shaffer, 2908 10th Ave., S., Seattle, Wash., rec. by Jos. L. Lengfeld and Clarissa M. Roehr.
- No. 4. Daniel Joshua Fry, 280 N. Commercial St., Salem, Oregon, rec. by John M. A. Lane and Ralph Crysler.
- No. 5. Gerhard Felix Berkenkotter, Ph.G., Hamill, S. Dakota, rec. by E. C. Bent and Wm. B. Day.
- No. 6. George L. Michaels, 32 Vernon Ave., Long Island City, N. Y., rec. by Geo. W. Luft and Joseph Weinstein.
- No. 7. J. Frank Strawinski, 3900 Terrace St., Wissahickon, Phila., Pa., rec. by J. W. England and F. P. Stroup.
- No. 8. Theodore Rhinehart Heller, 1145 Freas Ave., Berwick, Pa., rec. by H. T. Waldner and Charles H. LaWall.

The following is a list of the members of the Council for the ensuing year:

MEMBERS OF COUNCIL. 1916-1917.*

- Alpers, Wm. C., 14th St. & Central Ave., Cleveland, Ohio.
- Apple, Franklin M., 3233 W. Berks St., Philadelphia, Pa.
- Arny, H. V., 115 W. 68th St., New York, N. Y.
- Asher, Philip, 1606 St. Charles Ave., New Orleans, La.
- Beal, James H., 801 W. Nevada St., Urbana, Ill.
- Beringer, George M., 5th & Federal Sts., Camden, N. J.
- Burge, James O., 1502 McGavock St., Nashville, Tenn.
- Claus, Otto F., 3513 Hebert St., St. Louis, Mo.
- Day, William B., 701 S. Wood St., Chicago, Ill.
- DuBois, Wm. L., 379 Main St., Catskill, N. Y.

- Eberle, Eugene G., Bourse Building, Philadelphia, Pa.
- Eldred, Frank R., 3325 Kenwood Ave., Indianapolis, Ind.
- England, Joseph W., 415 N. 33rd St., Philadelphia, Pa.
- Fennel, C. T. P., 614 W. Court St., Cincinnati, Ohio.
- Glover, Wm. H., 299 Essex St., Lawrence, Mass.
- Hall, W. A., 200 Griswold St., Detroit, Mich.
- Hensel, Samuel T., 351 Mercantile Bldg., Denver, Col.
- Hilton, S. L., 1033 22nd St., Washington, D. C.
- Hopp, Lewis C., 1104 Euclid Ave., Cleveland, Ohio.
- Hynson, H. P., 423 N. Charles St., Baltimore, Md.
- Kauffman, George B., 235 High St., Columbus, Ohio.
- Koch, J. A., Bluff & Pride Sts., Pittsburgh, Pa.
- Kuever, R. A., College of Pharmacy, Iowa City, Iowa.
- LaPierre, E. H., 80 River St., Cambridge, Mass.
- Mason, Harry B., P. O. Box 484, Detroit, Mich.
- Mayo, Caswell, A., 66 West Broadway, New York, N. Y.
- McElhenie, Thos. D., 259 Ryerson St., Brooklyn, N. Y.
- Roehr, Clarissa M., University Hospital, San Francisco, Cal.
- Rogers, Charles H., West Va. University, Morgantown, W. Va.
- Sayre, L. E., University of Kansas, Lawrence, Kansas.
- Seltzer, L. A., 32 Adams St., W., Detroit, Mich.
- Snow, Clyde M., 701 S. Wood St., Chicago, Ill.
- Stewart Francis E., 11 W. Phil-Elena St., Philadelphia, Pa.
- Turner, J. L., 281 Green Ave., Brooklyn, N. Y.
- Utech, P. Henry, 209 Chestnut St., Meadville, Pa.
- Whelpley, Henry M., 2342 Albion Place, St. Louis, Mo.
- White, William R., 311 Grace St., Nashville, Tenn.
- Wilbert, M. I., 1621 35th St., N. W., Washington, D. C.

*Please report errors of name or address.

Wilkerson, J. A., 2036 Russell St., St. Louis, Mo.

Wulling, F. J., University of Minnesota, Minneapolis, Minn.

The following committees have been elected by the Council for 1916-17:

COMMITTEE ON FINANCE.

J. A. Koch, Chairman, Pittsburgh; Otto F. Claus, St. Louis, Mo.; E. H. LaPierre, Cambridge, Mass.

COMMITTEE ON PUBLICATION.

J. W. England, Chairman, Philadelphia, Pa.; H. B. Mason, Detroit, Mich.; Geo. M. Beringer, Camden, N. J.; J. H. Beal, Urbana, Ill.; C. A. Mayo, New York, N. Y.

Ex-officio Members—The Editor, Reporter on the Progress of Pharmacy, General Secretary and Treasurer.

COMMITTEE ON INVESTED AND TRUST FUNDS.

Wm. B. Day, Chairman, Chicago, Ill.; Eugene G. Eberle, Philadelphia, Pa.; Charles Holzhauser, Newark, N. J.; H. M. Whelpley, St. Louis, Mo.

COMMITTEE ON CENTENNIAL FUND.

F. J. Wulling, Chairman, Minneapolis, Minn.; J. A. Koch, Pittsburgh, Pa.; Wm. B. Day, Chicago, Ill.

AUDITING COMMITTEE.

Otto F. Claus, Chairman, St. Louis, Mo.; J. W. Mackelden, St. Louis, Mo.; Charles Gietner, St. Louis, Mo.

COMMITTEE ON TRANSPORTATION.

Thos. F. Main, Chairman, New York, N. Y.; Wm. B. Day, Chicago, Ill.; Lewis C. Hopp, Cleveland, Ohio; H. M. Whelpley, St. Louis, Mo.; Charles G. Merrell, Cincinnati, Ohio; Charles Caspari, Jr., Baltimore, Md.; Fred. J. Lackenbach, San Francisco, Cal.; E. Floyd Allen, Minneapolis, Minn.; F. C. Godbold, New Orleans, La.; W. S. Elkins, Jr., Atlanta, Ga.; C. Herbert Packard, East Boston, Mass.; F. W. Nitardy, Denver, Colo.; with the General Secretary and Local Secretary, ex-officio members.

COMMITTEE ON NATIONAL FORMULARY.

—————, Chairman, —————
 —————; W. L. Scoville, Vice-Chairman,

Detroit, Mich.; Clyde M. Snow, Chicago, Ill.; H. A. B. Dunning, Baltimore, Md.; A. B. Stevens, Ann Arbor, Mich.; Samuel L. Hilton, Washington, D. C.; Otto Raubenhimer, Brooklyn, N. Y.; Chas. H. LaWall, Philadelphia, Pa.; Leonard A. Seltzer, Detroit, Mich.; Geo. M. Beringer, Camden, N. J.; Harry V. Army, New York, N. Y.; M. I. Wilbert, Washington, D. C.; Wm. A. Hall, Detroit, Mich.; Adam Wirth, New Orleans, La.; E. Fullerton Cook, Philadelphia, Pa.

COMMITTEE ON STANDARDS.

Henry Kraemer, Philadelphia, Pa.; Eustace H. Gane, New York, N. Y.; B. L. Murray, Rahway, N. J.; W. A. Puckner, Chicago, Ill.; John G. Roberts, Philadelphia, Pa.; Otto Raubenhimer, Brooklyn, N. Y.; George D. Rosengarten, Philadelphia, Pa.; M. I. Wilbert, Washington, D. C.; J. A. Koch, Chairman, Pittsburgh, Pa.; H. H. Rusby, Newark, N. J.; F. R. Eldred, Indianapolis, Ind.; John M. Francis, Detroit, Mich.; Elmer E. Wyckoff, Brooklyn, N. Y.; L. D. Havenhill, Lawrence, Kan.; and E. L. Newcomb, Minneapolis, Minn.

COMMITTEE ON RECIPE BOOK.

W. L. Scoville, Detroit, Mich.; W. H. Glover, Lawrence, Mass.; Curt P. Wimmer, New York, N. Y.; John K. Thum, Philadelphia, Pa.; I. A. Becker, Chicago, Ill.; Clarissa M. Roehr, San Francisco, Cal.; Clarence G. Spalding, New Haven, Conn.; E. Fullerton Cook, Philadelphia, Pa.; William Gray, Chicago, Ill.; Theo. D. Wetterstroem, Cincinnati, Ohio; P. Henry Utech, Meadville, Pa.; Wm. L. Cliffe, Philadelphia, Pa.; Otto Raubenhimer, Chairman, Brooklyn, N. Y.; Henry P. Hynson, Baltimore, Md.; and M. I. Wilbert, Washington, D. C.

COMMISSION ON PROPRIETARY MEDICINES.

Martin I. Wilbert, Washington, D. C.; John C. Wallace, New Castle, Pa.; Charles Caspari, Jr., Baltimore, Md.; Thomas F. Main, New York, N. Y.; and James H. Beal, Chairman, Urbana, Ill.

J. W. ENGLAND,
Secretary of the Council.

415 N. THIRTY-THIRD ST., PHILA., PA.

MEMORANDA.

Treasurer H. M. Whelpley submits the following covering the period from August 18th to Sept. 18th, 1916:

Residence Unknown.

<i>Name.</i>	<i>Former Address.</i>
Bernhard Magnus, Carey, H. B.,	Syracuse, N. Y. Care Cal. College of Pharm., San Francisco, Cal.
Chambers, R. T.	529 San Pedro Ave., San An- tonio, Tex.
Duignan, John,	Regimental Hosp. 27th Inf., Texas City, Texas.
Jenson, Carroll, Liehmann, Elias,	333 S. Mont. St., Butte, Mont. 308 E. 57th St., New York, N. Y.
Miller, A. N.,	306 E. 165th St., New York, N. Y.
Moulder, Bettie Leona,	1429 Ocean Front, Santa Monica, Cal.
Powell, Muzelle,	Klemme, Ia.
Rogoff, Julius M.,	Medical Dept., Vanderbilt Univ., Nashville, Tenn.
Sticklano, Bert W., Trainer, Frank, Ryer, Joseph S.,	1500 Broadway, Denver, Col. Douglas, Ariz. 1575 Genesee St., Buffalo, N. Y.
Bacon, C. C.,	2038 Cherry St., Philadel- phia, Pa.
Bussey, T. F., Seith, L. F.,	Ft. Sam Houston, Texas. Military Hosp., Zamboango, Mincanao, P. I.
Bratter, B.,	1204 Evergreen Ave., New York, N. Y.
Fields, J. D.,	Lewis Hall, Univ. of Wash- ington, Seattle, Wash.
Bloch, J. M.,	17 Poplar St., Richmond Hill, Long Island, N. Y.
Woolsey, J. F.,	1104 Euclid Ave., Cleveland, Ohio, care Mayell & Hopp Co.

Resigned.

Sauerbrunn, O. O., Columbus, Ohio.
Lewis, C. R., Cripple Creek, Colo.
Strickland, F. N., Providence, R. I.
Blum, O. C., Columbus, O.
LaWall, Edgar S., Catasauqua, Pa.

Suspended for Non-Payment of Dues.

Robinson, K. N., Warrensburg, Mo.
Wheeler, J. B., Huron, S. Dakota.

A. PH. A. COUNCIL LETTER NO. 2.

PHILADELPHIA, PA., October 9, 1916.

To the Members of the Council:

GENTLEMEN:

*Motion No. 1 (Election of Members, Ap-
plications Nos. 1 to 8, inclusive)* has received a
majority of affirmative votes.

In list of members of Committee on Stand-
ards (C. I. No. 1, page 3) the name of George
M. Beringer was omitted. Please add name
to list.

At the adjourned meeting of the fifth ses-
sion of the Council for 1915-16, held at Atlan-
tic City on September 7, 1916, the Chairman
of the Council was directed to appoint a com-

mittee of five to study the present method of
revising the National Formulary and to pro-
vide for a system of financial control for the
next revision of the National Formulary, the
committee to report at the next annual
meeting.

In accordance with this action, Chairman
Hopp advises that he has appointed the fol-
lowing Committee on Financial Control of
N. F.: George M. Beringer, Harry V. Arny,
W. L. Scoville, J. A. Koch and H. M. Whelp-
ley.

At the meeting of the first session of the
Council for 1916-17, held at Atlantic City
on September 7, 1916, the Chairman of the
Council was directed to appoint a committee
of three to revise the by-laws of the Council,
to report at the next annual meeting.

Chairman Hopp advises that he has ap-
pointed the following Committee on Revision
of By-Laws of the Council: J. W. England,
J. H. Beal and H. M. Whelpley.

At the meeting of the first session of the
Council for 1916-17, held at Atlantic City on
September 7, 1916, James O. Burge, of Nash-
ville, Tenn., was elected Honorary President
of the Association for 1916-17.

Mr. Burge writes in relation to the honor
conferred:

"I am certainly proud of the honor, and
coming so unexpectedly, makes me appre-
ciate it the more, because it has been so long
since I attended a meeting of the Association.
I thought all of my friends had forgotten I
was in the land of the living. I am happier
therefore to know, that although absent, I
am still remembered. I will now have to
go to work in earnest to prove myself worthy
of the honor which has been conferred upon
me."

Under date of September 30, 1916, M. I.
Wilbert writes:

"In connection with the work of the several
standing committees of the American Pharma-
ceutical Association, it has occurred to me
that a rather disagreeable feature of this com-
mittee-work might be overcome by request-
ing the chairmen of these several committees
to supply the members of their committees
with stamped addressed envelopes when a
reply to an inquiry is necessary or is expected.
This practice has been generally followed
in connection with the work of the commit-
tees of the American Medical Association
and has worked out very satisfactorily in prac-
tice. It obviates the necessity of individual

members expending their own money for postage and frequently insures a reply that would otherwise not be forthcoming. If you think it necessary or desirable, I would offer as a motion that the Council suggest to the chairmen of the standing committees of the Association that they supply members of their committees with stamped-addressed reply-envelopes or include such a stamped-addressed envelope in all communications that entail replies. I do not think it necessary or advisable to use the word "direct" and the motion as outlined above would answer all reasonable requirements and the suggestion would certainly be acted on by chairmen of committees that require any considerable amount of correspondence."

The letter of Mr. Wilbert's was referred to General Secretary Day, who writes as follows:

"I have your favor of the 2nd, and I believe that Mr. Wilbert's suggestion is a good one. If we really expect committees to do the work assigned to them, we ought to be willing to stand the expense of postage connected with the work.

"I can readily understand that the chairman or member of a committee hesitates to turn in a bill for postage and yet should not be expected to stand this expense when he is giving his time and effort to the Association without monetary compensation. I think it would be well to establish the custom of supplying the chairman of each committee with a reasonable number of stamped envelopes and postal cards to carry on the work of his committee, the number to be determined by consulting the chairman."

Motion No. 2 (Postage and Stationery for Members of Standing Committees). Moved by E. G. Eberle, seconded by G. M. Beringer, that the General Secretary be authorized to furnish to the Chairman of each standing committee of the Association a reasonable supply of postage and stationery to carry on the work of the committee, to be determined by consulting the chairman.

Under date of October 6, the following communication has been received from Frank R. Eldred:

"I wish to make the following motions for presentation to the Council:

First, that the 1917 meeting be held during the week of August 27 to September 1

Second, that Mr. F. E. Bibbins be chosen Local Secretary for the 1917 meeting.

The local members wish to have these two

questions settled as soon as possible so that the arrangements for the meeting can go forward."

Motion No. 3 (Time of Holding the 1917 or Sixty-fifth Annual Meeting of the Association). Do you favor holding the 1917 or Sixty-fifth Annual Meeting of the American Pharmaceutical Association during the week of Monday, August 27, to Saturday, September 1, 1917?

Motion No. 4 (Local Secretary for 1917). Do you favor the election of Francis E. Bibbins, of Indianapolis, as Local Secretary for 1917?

Motion No. 5 (Election of Members). The following applications for membership have been received:

- No. 9. Corliss Page Dean, Hospital Steward, U. S. Navy, 11 Bull St., Newport, R. I., rec. by J. F. Rupert and Wm. B. Day.
- No. 10. Henry Terrell Mash, Jr., Thomasville, Ga., rec. by R. Thomas and Wm. B. Day.
- No. 11. Frank Vinton Eidson, Thomasville, Ga., rec. by R. Thomas and Wm. B. Day.
- No. 12. Miguel Angel Roman, 630 S. Ashland Blvd, Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.
- No. 13. Florence Louise Bentz, 894 Michigan Ave., Buffalo, N. Y., rec. by Willis G. Gregory and Wm. B. Day.
- No. 14. Bertha B. Arner, 128 Fordham Drive, Buffalo, N. Y., rec. by Willis G. Gregory and Wm. B. Day.
- No. 15. James C. Dildine, 10 Purdy St., Bath, N. Y., rec. by Willis G. Gregory and Wm. B. Day.
- No. 16. James William Smellie, Hammondsport, N. Y., rec. by Willis G. Gregory and Wm. B. Day.
- No. 17. Ira E. Cutler, 2122 S. Clayton St., Denver, Colo., rec. by Wm. A. Hover and F. W. Nitardy.
- No. 18. Wilbur Dwight Engle, 2233 South Columbine St., Denver, Colo., rec. by Wm. A. Hover and F. W. Nitardy.
- No. 19. William Edward Pforster, Ph.C., 731 Shotwell St., San Francisco, Cal., rec. by Jennie Maguire White and Clarissa M. Roehr.

J. W. ENGLAND,
Secretary of the Council.

415 N. THIRTY-THIRD ST., PHILA., PA.

A. PH. A. COUNCIL LETTER NO. 3.

PHILADELPHIA, PA., October 21, 1916.

To the Members of the Council:

Motion No. 2 (Postage and Stationery for Members of Standing Committees), Motion No. 3 (Time of Holding the 1917 or Sixty-fifth Annual Meeting of the Association), Motion No. 4 (Election of Francis E. Bibbins as Local Secretary), and Motion No. 5 (Election of Members; Applications Nos. 9 to 19, inclusive), have each received a majority of affirmative votes.

In re Council Letter No. 1 (p. 3): No chairman was named for Committee on National Formulary, because none was elected at the Atlantic City meeting to succeed C. Lewis Diehl, resigned. Add name of George M. Beringer to Committee on Standards, term expiring in 1918.

Motion No. 6 (Appropriation of \$2500 to the National Formulary IV Account). Moved by J. A. Koch, seconded by W. B. Day, that \$2500 be appropriated to the National Formulary IV Account with which to pay bills for the National Formulary IV.

The appropriation is approved by the Committee on Finance. Sufficient funds have been received from the sale of the book (N. F. IV) to make the appropriation without using the general receipts.

Motion No. 7 (Election of Members). The following applications for membership have been received:

No. 20. Cecil Read Bloom, Clearfield, Pa.,
rec. by Louis Saalbach and Fred. J. Blumenschein.

No. 21. Morton Leonard Bullard, 45 Free St., Dexter, Me., rec. by U. C. Muldoon and John D. Glancy.

J. W. ENGLAND,

Secretary of the Council.

415 N. 33RD ST., PHILA., PA.

A. PH. A. COUNCIL LETTER NO. 4.

PHILADELPHIA, PA., October 31, 1916.

To the Members of the Council:

Motion No. 6 (Appropriation of \$2500 to the National Formulary) and Motion No. 7 (Election of Members; applications Nos. 20 and 21) have each received a majority of affirmative votes.

W. B. Day writes:

"As Chairman of the Committee on Invested and Trust Funds, I have made inquiry through the Fort Dearborn National Bank of Chicago concerning the institutions where

the funds of the Association are kept. These institutions are the International Bank of St. Louis, the Boston Penny Savings Bank of Boston, the Title Guarantee and Trust Company of St. Louis.

"The reply of the Fort Dearborn National Bank is entirely favorable. They state that 'We have no reason to change our opinion as expressed to you heretofore regarding the International Bank of St. Louis, and the Boston Penny Savings Bank. The former mentioned bank has been a valued correspondent of ours for a number of years, and we believe entitled to your confidence. The latter named institution does not carry an account with us but information we have received from our friends in Boston is favorable.' and 'Information which we have received from our St. Louis friends regarding the Title Guaranty Trust Company is entirely favorable. We are told that the concern confines itself to title and guarantee business and are said to be doing a successful business. They are reported as owning a considerable amount of the stock of the American Trust Company and we are told that their statement of the first year showed a surplus and undivided profits of \$1,190,000. Those interested are highly regarded and are said to be men of excellent ability and high integrity.' "

The following communication has been received:

"I move the election of Professor Wilbur L. Scoville as Chairman of the Committee on National Formulary.

CLYDE M. SNOW.

I second the motion to elect Professor Wilbur L. Scoville Chairman of the Committee on National Formulary.

WM. B. DAY."

Are there any further nominations?

The following communication has been received:

"I move the election of Bernard Fantus, M.D., Professor of Pharmacology, University of Illinois College of Medicine, to membership on the Committee on National Formulary to fill the vacancy caused by the resignation of Professor C. Lewis Diehl

CLYDE M. SNOW.

I second the motion to elect Bernard Fantus, M.D., as a member of the Committee on National Formulary.

WM. B. DAY."

Are there any further nominations?

The Secretary has received the following

letter (dated October 17) from Dr. James H. Beal:

"When I accepted a place on the Committee on Publication I overlooked the fact that the Committee had business relations with the Midland Publishing Company, in which I have been a stockholder for many years, but for a long time have not paid any attention to the business and know but little more about the transactions of the Company than you do. This relation, however, makes it important, both for the Committee and for my own sake, that I should not be a member of the Committee on Publication, and I therefore tender my resignation as a member of the same.

"I feel it highly important that this resignation be accepted, for the reasons above stated, and will be personally obliged if you will offer a motion to the Council to that effect."

Upon receiving this communication, your Secretary realizing (as Chairman of the Committee on Publication) the value of Dr. Beal's services as a member of the Committee on Publication, wrote him and asked him if he could not possibly retain his place on the committee, for a time at least, but he writes (date of 26th inst.):

"Your kind favor of October 21 at hand, and I appreciate the thought which leads you to request me to retain a place on the Committee on Publication. I am sorry that I cannot see my way clear to comply with your request even to remain a member temporarily. Please, therefore, submit my resignation, with a motion in favor of its adoption."

Motion No. 8 (Resignation of Dr. James H. Beal as Member of Committee on Publication). Moved by G. M. Beringer, seconded by Dr. F. E. Stewart, that, under existing circumstances, the resignation of Dr. James H. Beal as a member of the Committee on Publication be accepted with regrets.

Under date of 28th inst., Otto Raubenheimer, Chairman of Committee on A. Ph. A. Recipe Book, writes:

"Enclosed please find resignation of Prof. Henry P. Hynson from the Committee on A. Ph. A. Recipe Book, which explains itself.

"As much as I would like to have Prof. Hynson remain on the Committee, you will see that his views on the Recipe Book are entirely different from my own as well as that of the other members. I would, therefore, recommend to the Council that the resigna-

tion of Prof. Hynson will be accepted with regrets.

"I would, furthermore, recommend to the Council that Prof. Charles H. LaWall, of Philadelphia, would be appointed in his place. In explanation of this recommendation, permit me to state that Prof. LaWall has contributed several formulas and has assured me of his hearty support on the work of the Committee."

The letter of Prof. Hynson to Chairman Raubenheimer is of date of October 20th, and reads as follows:

"I am in receipt of Bulletin No. 11 of the Committee on A. Ph. A. Recipe Book and, while I do not wish to be at all troublesome, I must say that the proposed book is so entirely different from the one I had hoped would be gotten up and some of the formulas suggested, in my opinion, are so at variance with good pharmaceutical ethics that I feel it will be much better for me to resign from the Committee. I, therefore, ask you to accept this as my resignation and to notify the Council. I will keep the Bulletin and binder until my successor is appointed, when I will send them all to him in good order.

"Do not think for one moment that I wish to change the action of the Committee or the Association on this subject. I simply wish to be relieved of any responsibility in connection with the publication of the formulas."

A motion to accept Prof. Hynson's resignation as a member of the Committee on A. Ph. A. Recipe Book (term expiring 1920) is in order, after which, if the motion is adopted, action can be taken to elect a successor.

Very truly yours,

J. W. ENGLAND,

Secretary.

415 N. 33RD ST., PHILADELPHIA, PA.

A. PH. A. COUNCIL LETTER NO. 5.

PHILADELPHIA, PA., November 11, 1916.

To the Members of the Council:

Motion No. 6 (Resignation of Dr. James H. Beal as Member of the Committee on Publication) has received a majority of affirmative votes.

Motion No. 9 (Resignation of H. P. Hynson as Member of Committee on Recipe Book). Moved by P. Henry Utech, seconded by F. J. Wulling, that the resignation of H. P. Hynson as a member of the Committee on

Recipe Book (term expiring 1920) be accepted, with regrets.

Motion No. 10 (Election of Members). The following applications for membership have been received:

- No. 22. Robert Lich, 2924 Illinois Ave., Fresno, Cal., rec. by E. C. Bent and J. W. England.
- No. 23. William B. Hansen, care Berner's Drug Store, Des Moines, Iowa, rec. by E. O. Kagy and Wm. B. Day.
- No. 24. Emil Schoenholzer, Livingston, Montana, rec. by E. O. Kagy and Wm. B. Day.
- No. 25. Olin Erb, Absarokee, Montana, rec. by E. O. Kagy and Wm. B. Day.
- No. 26. Harry Sumner Noel, 3124 Kenwood Ave., Indianapolis, Ind., rec. by Francis E. Bibbins and W. C. Bartholomew.
- No. 27. Gertrude M. Palmer, Grace Hospital, cor. John R. & Willis Aves., Detroit, Mich., rec. by W. C. M. Scott and F. W. R. Perry.
- No. 28. Frank Genio Scott, 35 Bates St., Detroit, Mich., rec. by Wilbur J. Teeters and Wm. B. Day.
- No. 29. Clayton E. Tanke, 2310 Broadway, Indianapolis, Ind., rec. by W. C. Bartholomew and Francis E. Bibbins.
- No. 30. George Keyworth Shearer, 16 N. George St., York, Pa., rec. by Charles H. LaWall and Ivor Griffith.

J. W. ENGLAND,

Secretary of the Council.

415 N. 33RD ST., PHILADELPHIA, PA.

A. PH. A. COUNCIL LETTER NO. 6.

PHILADELPHIA, PA., November 30, 1916.

To the Members of the Council:

Motions No. 11 (Election of C. H. LaWall as a Member of the Committee on Recipe Book) and No. 13 (Recommendation of Mr. Elwood Hendrick as a Member of the Tariff Commission), have each received a majority of affirmative votes.

The following Budget of Appropriations for 1917 is recommended by the Committee on Finance:

PROPOSED BUDGET OF APPROPRIATIONS FOR 1917.

Appropriations for General Expenses:

No. 1. Salaries.....	\$ 6150
No. 2. Printing, Postage and Stationery.....	1000
No. 3. Clerical Expenses, Secretary's Office.....	416
No. 4. Miscellaneous Expenses...	200

No. 5. Stenographers.....	350
No. 6. Traveling Expenses.....	200
No. 7. Committee on Membership	250
No. 8. Committee on Unofficial Standards.....	100
No. 9. Year Book.....	3000
No. 10. Premium on Treasurer's Bond.....	50
No. 11. National Drug Trades Conference.....	100
No. 12. Section on Scientific Papers	25
No. 13. Section on Education and Legislation.....	25
No. 14. Section on Commercial Interests.....	25
No. 15. Section of Practical Pharmacy and Dispensing	25
No. 16. Section on Historical Pharmacy.....	25
No. 17. Women's Section.....	25
No. 18. National Syllabus Committee.....	25
No. 19. Committee on Recipe Book	50

\$12041 \$12041

Appropriations for Open Accounts:

No. 20. Journal.....	\$6250
(a) Publication.....	\$5000
(b) Clerical Expenses	800
(c) Postage and Stationery.....	300
(d) Freight, Drayage and Miscell...	150
No. 21. National Formulary.....	1000
No. 22. Badges and Bars.....	50
No. 23. Certificates.....	50

\$19391

Do you approve the above Budget? The motion will be known as *Motion No. 17 (Approval of Budget of Appropriations for 1917)*.

Motion No. 18 (Election of Members). The following applications for membership have been presented:

- No. 39. William Irwin Moore, 566 Kearney St., San Francisco, Cal., rec. by H. C. Christensen and Wm. B. Day.
- No. 40. Albert A. Enke, 1332 East 28th St., Oakland, Cal., rec. by H. C. Christensen and Wm. B. Day.
- No. 41. Wm. B. Cheatham, 781 Alcatraz Ave., Oakland, Cal., rec. by H. C. Christensen and Wm. B. Day.
- No. 42. Carl L. Schmidts, 2524 Milvia St., Berkeley, Cal., rec. by H. C. Christensen and Wm. B. Day.
- No. 43. Earl W. Gsell, 113 E. Cent. Ave., Highland Park, Ill., rec. by Wm. B. Day and Wm. Gray.
- No. 44. John Davis Brooke, 320 State St., Brooklyn, N. Y., rec. by Jeannot Hostmann and H. V. Arny.
- No. 45. Bertram Clarence Steves, 48 West 130th St., New York, N. Y., rec. by

AMERICAN PHARMACEUTICAL ASSOCIATION

- Otto Raubenheimer and Frank L. McCartney.
- No. 46. John Arthur Valvano, 2059 1st Ave., New York, N. Y., rec. by Otto Raubenheimer and Frank L. McCartney.
- No. 47. Charles A. Oats, 658 9th Ave., cor. 46th St., New York, N. Y., rec. by Louis Berger and Jeannot Hostmann.
- No. 48. Max Lapat, 35 West 32nd St., New York, N. Y., rec. by Geo. C. Diekman and Curt P. Wimmer.
- No. 49. Morris Phipps, 620 N. 6th Street, Richmond, Va., rec. by Wortley F. Rudd and Albert Bolenbhangh.
- No. 50. Herbert Alexander Smith, 3233 North New Jersey St., Indianapolis, Ind., rec. by Mortimer Bye and H. S. Noel.

J. W. ENGLAND,
Secretary.

415 N. 33RD STREET, PHILA., PA.

A. PH. A. COUNCIL LETTER NO. 7.

PHILADELPHIA, PA., December 11, 1916.

To the Members of the Council:

Motions No. 14 (Appropriation of \$5000 to the National Formulary Account), No. 15 (Election of Members; Applications Nos. 31 to 38, inclusive), No. 17, Approval of Budget of Appropriations for 1917) and No. 18 (Election of Members; Applications Nos. 39 to 50, inclusive) have each received a majority of affirmative votes.

The vote is called for on *Motion No. 16 (Substitute Motion for Motion No. 12)*, which reads as follows: "That Dr. James H. Beal be appointed Chairman of a special committee, that he is to select, to consider the project for establishing an A. Ph. A. Headquarters; to report to the Association a comprehensive plan covering the scope of the work contemplated through such an agency; a plan for its permanent management; and also a statement as to the amount of endowment fund that will be necessary to provide for sufficient income for this purpose, so that the financial support of the project will be assured." (C. L. No. 8, 21.)

R. A. Kuever writes: "It is my opinion that both 'A. Ph. A. Home' and 'A. Ph. A. Headquarters' are inappropriate titles in so far as it will not be a home in the general sense of that word and that 'Headquarters' carries with it the meaning of a temporary location.

"I would suggest, therefore, 'American Pharmaceutical Association Building' as a substitute."

C. T. P. Fennel writes: "It is with the deepest and sincerest regret to hear of the death of Martin I. Wilbert. The Council has lost a valued member, but American Pharmacy has suffered a greater loss. Mr. Wilbert was devoted to science, to true knowledge for the sake of humanity. Self never entered as a factor—one of the few who labored for the benefits of the many. May his memory be cherished forever."

L. E. Sayre writes: "I have your letter of the twenty-seventh ultimo and I was very much surprised and distressed indeed at the shocking news that such a valuable man should be taken from our professional ranks and from the membership of our most useful workers in our vocation—a man impossible to replace.

Please express my heartfelt sorrow for this loss to the profession and to his many friends."

The following motion has been received:

Motion No. 19 (Resolution Relative to the late Martin I. Wilbert), moved by S. L. Hilton, seconded by Dr. F. E. Stewart, that the Chairman of the Council appoint a committee to prepare resolutions to be sent to the widow of the late Martin I. Wilbert, expressing the sympathies of the members of the Council to her, in her bereavement, and their appreciation of the valuable services Mr. Wilbert has rendered to American Pharmacy and the American Pharmaceutical Association.

J. W. ENGLAND,
Secretary.

415 N. 33RD STREET, PHILA., PA.

A. PH. A. COUNCIL LETTER NO. 8.

PHILADELPHIA, PA., Nov. 27, 1916.

To the Members of the Council:

The Council of the American Pharmaceutical Association is advised of the demise of one of its most valued members, Martin Inventius Wilbert. He died suddenly of cardiac trouble, on Saturday morning, November 25, 1916, at the German Hospital, Philadelphia. The funeral will be in the chapel of the Mary J. Drexel Home, 2100 Girard Avenue, Philadelphia, on Tuesday, November 28, 1916, at 2 P.M.

J. W. ENGLAND,
Secretary.

415 N. 33RD STREET, PHILA., PA.

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, J. H. BEAL, and the Editor-in-Chief of the Journal, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Office of Publication, 253 Bourse Building, Philadelphia, Pa.

OFFICERS-ELECT OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

The newly elected officers of the American Pharmaceutical Association, as announced by the Board of Canvassers, are as follows:

President, Charles Holzhauer, Newark, N. J.

First Vice-President, Alfred R. L. Dohme, Baltimore, Md.

Second Vice-President, Leonard A. Seltzer, Detroit, Mich.

Third Vice-President, Theodore J. Bradley, Boston, Mass.

The three new members of the Council are: Frederick J. Wulling, Minneapolis, Minn.; George M. Beringer, Camden, N. J.; Thomas F. Main, New York City.

These officers assume their duties just before the close of the Indianapolis convention.

The result of the referendum vote on the Year Book will be announced by the Publication Committee, and action thereon will be taken at the annual meeting.

THE INVESTIGATION OF NARCOTIC SALES IN NEW YORK.

The investigations by the New York Narcotic Committee will be helpful in devising means for curtailing the sales of narcotic drugs. There never has been a stronger and more determined effort made to arrive at a knowledge of the means employed for supplying the habitues with drugs, and the Committee, appointed by the State of New York to investigate the subject, has had the hearty coöperation of the drug organizations.

The larger sources of supply evidently are obtained through smugglers, the drugs being sent to adjoining and even distant countries, and thereafter brought back into the United States, and thefts from manufacturers and wholesale dealers. It is a difficult matter, especially at this time, when these drugs are needed by the armies, to discern whether the orders are for legitimate purposes. It was discovered also that some of the bottles containing narcotics bore forged labels of Ameri-

can manufacturers, so that probably foreign drugs are in this way smuggled into this country. The dealers supplying habitues or peddlers have evidently studied their nefarious business from every angle and devised a system. One drug peddler admitted that he made \$2000 per month on illegal sales, and further stated that a practically unlimited supply could be obtained in New York City.

The thefts of narcotics have been numerous and reported from nearly every large city; recently in Philadelphia, one jobber reported a theft of \$1500 worth of narcotics and another of nearly a like amount. It is generally admitted that drug fiends will not be deterred by any risk in securing the drugs.

The testimony of physicians relative to treatment differed, some contending that habitues needed the drugs, while others stated that they were not necessary and addicts could be more successfully treated without them; many did not believe there was a cure for the affliction so long as the drugs could be obtained.

In order to curtail the sale of narcotics some kind of an agreement must be reached between governments, and state laws must complement the Federal act. The illicit sale or prescribing should be made a felony and a punishment of long term confinement assessed. There is a developing sentiment that drug addicts should be registered, doubtless if this is practicable and could be enforced, the system would at once do away with a large percentage of the drug addicts.

The investigation will doubtless prove of value for providing legislation, and has shown how sincerely the drug trade desires to have this traffic properly and efficiently regulated.

GETTING PHYSICIANS AND PHARMACISTS TOGETHER.

The *Weekly New York Health Bulletin* says that the Bronx County Pharmaceutical Association is doing a commendable work in bringing the physicians and druggists of the Bronx closer together. The Association has

arranged a series of "propaganda meetings," at which an effort will be made to interest physicians in pharmacopoeal and National Formulary preparations, so that they will prescribe these in place of the many proprietary nostrums which now disfigure the advertising pages of many of even high-grade medical journals. The meetings will be addressed by prominent members of the medical and pharmaceutical profession, and will undoubtedly do much to promote effective co-operation between physician and pharmacist.

THE DEVELOPMENT OF THE AMERICAN PHARMACEUTICAL MANUFACTURING HOUSES.

It must always be a source of satisfaction to retail pharmacists that the American pharmaceutical manufacturing houses developed from retail pharmacies. There the foundation was laid for their larger work. Pharmacists may well have pride in the service they render humanity; a wider publicity of this service should be given and pharmacists can reflect with much gratification thereon. And when they do, there must come also an acknowledgment of the accomplishments of the manufacturers, they are willing and do spend much money without knowing whether there will be any returns from their investment. But that this sincerity of purpose does pay is proven by the success of these establishments. Their research work is for the purpose of having perfect preparations not solely for deriving greater profit. Leaving aside altogether the commercial viewpoint, what a satisfaction there must be when they can say, because of the efficacy of their preparation suffering was relieved and life saved. So also in biological manufacture, many of these products originated in experiments which might have proven large losses, risks were assumed that they would have borne without complaint had they proven failures. So they are well deserving of commendation, and when physicians speak of their service to humanity retail pharmacists and manufacturers should not be forgotten. Let us give deserved credit to physicians and surgeons; they have reaped abundantly in the appreciation of the public, but think also of the millions of lives saved because of the products of the pharmaceutical and biological laboratories. The former have been given recognition, they received valuable publicity; it is time pharmacists had a larger share in these tributes.

CHEMICAL INDUSTRIES.

The public is gaining a better understanding of what chemical manufacturing means as a commercial enterprise. The war has been a great disseminator of chemical information, and misinformation, and there is a more wide-spread appreciation of the value chemical industries are to the United States than obtained a year or two ago.

An investor said the other day, money is not always a fair measure of things, but it is usually a safe proposition to say that when a man puts his money into anything it is because he foresees that thing is of value. So it is that when one stops to think that the total capitalization of new dye and chemical concerns in 1915 was \$65,565,000 and that in 1916 the total capitalization of new chemical concerns reached the handsome total of \$105,000,000, it is apparent that the American public is gaining a practical knowledge of chemistry as an asset in American manufacturing and commercial life.

CHEMOTHERAPY AND RADIOTHERAPY.

Dr. Isaac Levin says in the *Medical Record* that both chemotherapy and radiotherapy appear to produce their effects by disturbing and rearranging the internal structure of the atom, but the difference between the two methods consists in the fact that in chemotherapy a foreign chemical substance is introduced into the organism and influences the electrons within the atoms of the tissues, while in radiotherapy no foreign substance is introduced, but the waves of ether constituting the various rays disturb the composition of the atom. Dr. Levin states that only experimentation can determine where and when radiotherapy should be attempted, and only when the relationship between the atomic structure of the substance and the wave length of the X-rays is correct, does there take place a selective absorption of the rays by the substance, and the latter is then influenced by the rays.

TECHNICAL LIBRARY TO AID GERMAN INDUSTRY.

Vice-Consul H. E. Carlson at Frankfort-on-Main writes in *Commerce Reports* that according to a recent article in the *Frankfurter-Zeitung* and an interview with a prominent librarian at Frankfort plans are being considered for the establishment of a

general technical library at Frankfort-on-Main, to be open for public use. One of the leading city libraries has become interested in the project, and a beginning already has been made. It is said that the plan is unique among the cities of the German Empire.

A demand exists for a library which will be of service to all the numerous branches of industry and trade in and about Frankfort, the most important industrial center in south and west Germany. In this manner a broader spirit of scientific and technical investigation will be fostered. An attempt will be made to furnish technical information which will have a historical as well as purely scientific value.

Technical libraries have existed previously, but they have not been open to the general public. Such libraries have been the property of scientific societies, technical associations, and the larger industrial concerns. The service rendered by these scattered collections was comparatively small, as it was limited to members of the respective organizations owning them. These were usually hampered by lack of means and lack of facilities for organizing and arranging to the best advantage.

The plan that is now under way would combine these private and semiprivate libraries and put them under the control of one of the established city libraries at Frankfort-on-Main. The library chosen for this purpose is the *Freiherrliche Carl von Rothschildsche Öffentliche Bibliothek*.

FRONT FACE.

The Robertson-Bradshaw Company has sent out a New Year letter which contains a series of good thoughts and worthy of reproduction.

A Happy New Year to you!

That means we are facing the future.

To our friends, our business associates, our relatives—even our enemies, if any—we send this greeting: Let the past go!

We have had failures, disappointments, worries—let us step on them and rise to better things!

We have had our triumphs, but they will not do for to-morrow, let them inspire us to new achievement!

We have had our little clashes—well, perhaps now that we know how human we both are we can get along better together.

God put our eyes in the front of our head, let us look forward, not back.

The future is the sky of the present; and light comes from the sky.

In the future we see only better business and bigger, we see honesty, loyalty and courtesy more worth while; the past may be spotted, the future is clear.

Then here's a hand of help to you and a hearty cry of good cheer!

May we all be more courageous to do right and kindlier in the doing, fairer and squarer than ever before.

May we make our workmen more prosperous, our customers more satisfied, our competitors more friendly, and altogether try to make this old world a more decent and brighter place to live in.

May we live this year so that

"Sweeter shall the roses blow

In those far years, those happier years;

And children weep when we lie low

Far fewer tears, far softer tears."

RETURNED GOODS RULES.

Complaint against the abuse of the privilege of returning goods, which has become general within recent months, has led the retail trade board of the Boston Chamber of Commerce to draw up a set of rules governing the return of goods. An advertising campaign was conducted to acquaint the public with the changes, and slips bearing the new rules were sent by merchants to all customers. Goods were divided into two classes, returnable and non-returnable, and regulations governing the return of goods made as follows:

Any article of merchandise which by some good reason is to be returned to a store, must be returned within a reasonable time—six business days.

No articles will be accepted for return unless they are substantially in their original condition; neither will merchandise of any kind which has been used or worn, be accepted for return unless defective or not as represented.

The sales check must accompany all returned merchandise.

Gifts of all kinds (Christmas, wedding, birthday, etc.) if returned, will be accepted only in exchange for other merchandise.

All goods cut from the piece at the request

of the customer, that would have remnant value, are returnable at one-third of purchase price.

Uniform tags will be used on articles bought with the privilege of returning. If these tags have been removed from the article, it will not be accepted for return.

Exceptions are made when there is an error on the part of the store; or in case of defective workmanship at the time of sale.

McKESSON AND ROBBINS INCORPORATED.

On December 26, the firm of McKesson & Robbins was chartered as a New York corporation to deal in chemicals, foodstuffs, surgical instruments, printing stationers, with 10,000 shares at \$100 each; 20,000 shares no par value. Capital, \$2,000,000. Incorporators are: G. C. McKesson, J. McKesson and H. D. Robbins, 91 Fulton Street, New York City.

SOCIETIES AND COLLEGES.

THE METRIC CONFERENCE.

"The great mass of the world is metric and we are more metric than we know," stated Arthur E. Kennelly, professor of electrical engineering of Harvard University, at the meeting of Section 1 of the American Association for the Advancement of Science, held on the morning of December 27 in the School of Mines building of Columbia University. In proof of his statement Mr. Kennelly called attention to the fact that "Hundreds of thousands of bills for electric current are made every month in terms of the kilowatt hour" and cited other instances in which various measurements are designated in terms of the metric system.

This meeting of Section 1 of the association, held for the purpose of considering the "advisability of adopting the metric standards of weights and measures in the United States," was largely attended by representatives of various colleges, scientific societies, professional and business organizations, commercial interests and the United States Government and was one of the most important of the section meetings of the national body during the annual convention.

DR. KUNZ BLAMES ENGLISH METHODS.

Dr. George Frederick Kunz, in his address as chairman of the section, stated that one of the reasons for the slowness with which the United States adopted the metric system was that much of our trading was with England and that so long as that nation clings to the old system it will be difficult for us to make any change. With the single exception of England and English colonies the rapid development of our foreign trade is largely dependent upon our adoption of this, "the only international system" is the belief of Dr. Kunz, who stated:

"For the effective development of our foreign trade, for the utilization of the great and unique opportunities in this direction that the world war has given and will give us, it is most urgent that all foreign catalogues and publications issued by our manufacturers should have all dimensions expressed in metric as well as in English weights and measures. This can be done by placing the metric equivalents in parentheses. No better object lesson of the superiority of the metric system could be desired than that which would be afforded in this way, as its uniformity and simplicity would thus be brought directly home to everyone who consulted the figures.

UNIVERSAL LANGUAGE OF WEIGHTS AND MEASURES.

"The increased demand for our goods from South America, and the movement among our manufacturers to take advantage of the check of European exports to South America in order to introduce our productions there more widely and more consistently, works in the same direction. For our manufacturers are slowly learning the important lesson that if we wish to increase our trade in foreign lands we must endeavor to conform to the standards and usages current therein. When the war is over great opportunities will present themselves; but we must prepare now with a universal language of weights and measures."

In answer to the frequently heard argument that the adoption of the metric system would necessitate the "scrapping" of hundreds of thousands of dollars' worth of valuable machinery, the doctor had to say:

"Of the great advantages the metric system possesses in simplifying all necessary calculations regarding dimensions, there can be no question. Hence the opponents of its introduction here base their arguments mainly

upon the difficulties involved in a readjustment of the various mechanical appliances of manufacture to a radically different scale. However, in many cases this difficulty is more apparent than real, and would merely imply a remarking in accord with the metric equivalent of the old measures, and the actual expense and very temporary inconvenience involved would assuredly be many times remunerated by the great advantages secured."

PRESENT SYSTEM "CHAOTIC."

Mr. Kennelly, in his address, characterized the present system of weights and measures as "old-fashioned and chaotic" and announced that metric terms were rapidly gaining in favor among electrical engineers. He stated that the adoption of the newer system would be a simple matter to the man on the street, but that many men in business would undoubtedly be faced with great difficulties and urged that "we people who believe in the metric system have no right to force it suddenly upon those who do not want to use it" and suggested that the endeavor be to introduce it gradually so as not to antagonize any important interests.

William C. Wells, chief statistician of the Pan-American Union, Washington, D. C., pointed out in detail the necessity of the metric system in trade relations with the republics of South America, stating that the necessity was increasing from year to year as the nature of our exports to those countries changed from raw materials to manufactured articles. He said that already there were thousands of workmen in the factories of the United States who, because of dealings with foreign countries, were as familiar with the metric as with the old system of measurement now in force in the country.

Dr. H. V. Army, professor of chemistry, Columbia University, told how the metric system would affect the every-day life of the community. Fred R. Drake, ex-president of the National Association of Wholesale Grocers, announced himself heartily in favor of the adoption of the system and gave a number of reasons for his belief that metric measurements were more satisfactory than those now in use. H. D. Hubbard, secretary of the Bureau of Standards, Washington, D. C., briefly outlined the history of the system in this country and stated that many departments of the government service were using the system to the exclusion of all others. Dr. Adolph W. Miller, of Philadelphia,

presented an able plea for the adoption of the system.

Following the reading of the papers Madame Montesori explained how her method of teaching prepares the mind of the child for the metric system by inculcating into it the fundamentals of the decimal system.—From the *Paint, Oil and Drug Reporter*.

MINNESOTA PHARMACEUTICAL ASSOCIATION PROPOSES TO PASS A LAW RESTRICTING SALES OF DRUGS TO DRUG STORES.

The Minnesota Pharmaceutical Association is doing good publicity work among citizens, in educating them relative to the importance of restricting sales of drugs to those qualified. The principal object is to eliminate the drug peddler, always a source of danger to the public. While usually these peddlers only distribute household remedies and package goods, they have an opportunity for selling restricted drugs. If the peddler of narcotics and "boot-legger" could be eliminated, a large part of the illicit selling of proscribed drugs and illegal liquor sales would be done away with.

STANDING COMMITTEES OF THE NATIONAL WHOLESALE DRUGGISTS' ASSOCIATION.

President James W. Morrisson of the N. W. D. A., has announced the following committees:

Arrangements and Entertainment—Charles E. Matthews, Sharp & Dohme, Chicago, Ill.

Commercial Travelers and Selling Methods—H. D. Faxon, Faxon & Gallagher Drug Company, Kansas City, Mo.

Credits and Collections—R. R. Ellis, Hessig-Ellis Drug Company, Memphis, Tenn.

Drug Market—Charles L. Huisking, New York.

Employers' Liability and Workmen's Compensation—William W. Gibson, Gibson Drug Company, Rochester, N. Y.

Fire Insurance—Lee M. Hutchins, Hazeltine & Perkins Drug Company, Grand Rapids, Mich.

Legislation—George W. Lattimer, Kauffman-Lattimer Company, Columbus, Ohio.

Local Associations—W. J. Mooney, Mooney-Mueller-Ward Company, Indianapolis, Ind.

Membership—J. D. Price, Orr, Brown & Price Company, Columbus, Ohio.

Memorials of Deceased Members—H. J.

Schnell, Oil, Paint and Drug Reporter, New York.

Paints, Oils and Glass—W. F. Cram, Iowa Drug Company, Des Moines, Iowa.

Prevention of Adulteration—Dr. A. R. L. Dohme, Sharp & Dohme, Baltimore, Md.

Proprietary Goods—Charles A. West, Eastern Drug Company, Boston, Mass.

Rates and Routes—Romaine Pierson, Practical Druggist, New York.

Trade-Marks—E. K. Hyde, Mentholatum Company, Buffalo, N. Y.

Transportation—John T. Kennedy, Evans-Smith Drug Company, Kansas City, Mo.

Special Committee on Suits against Members—William Jay Schieffelin, Schieffelin & Co., New York.

Special Committee on Distribution of Proprietary Articles—Charles Gibson, Walker & Gibson, Albany, N. Y.

Special Committee to Confer with Other Trades Dealing in Druggists' Sundries—W. A. Hover, W. A. Hover & Co., Denver, Colo.

Special Committee to Cooperate with Paint, Oil and Varnish Associations—W. T. Harper, J. W. Edgerly & Co., Ottumwa, Iowa.

Special Committee on Order of Business—James W. Morrisson, Fuller-Morrisson Co., Chicago, Ill.

Special Committee on Metric Weights and Measures—Dr. A. W. Miller, Aschenbach & Miller, Philadelphia, Pa.

Delegates to American Pharmaceutical Association—William Scott, Kiefer-Stewart Company; Marion Ward, Mooney-Mueller-Ward Company; Eli Lilly, Eli Lilly & Co., Indianapolis, Ind.

Delegates to Chamber of Commerce of the U. S. A.—E. D. Taylor, Councillor, Powers-Taylor Drug Company, Richmond, Va.; W. V. Smith, Valentine H. Smith & Co., Philadelphia, Pa.; A. B. Stewart, Stewart & Holmes Drug Company, Seattle, Wash.

Representatives in National Drug Trade Conference—Charles A. West, Eastern Drug Company, Boston, Mass.; George W. Latimer, Kauffman-Latimer Company, Columbus, Ohio; C. Mahlon Kline, Smith, Kline & French Company, Philadelphia, Pa.

MASSACHUSETTS COLLEGE OF PHARMACY.

Through the generosity of George Robert White, the Massachusetts College of Pharmacy, in another year, will come into possession of the finest building and equipment of

any school of pharmacy in the country. It is to be on Longwood avenue on the corner of Worthington street, the lot having a frontage of about 300 feet on Longwood Avenue and a depth on Worthington Street of 250 feet, covering an area of 75,000 square feet.

The site is in the academic district that includes the Harvard Medical School, Peter Bent Brigham Hospital, Children's Hospital the proposed Lying-in Hospital, High School of Commerce, Simmons College and Girls' Normal School group, which unite in forming one of the greatest educational benevolent and charitable centres in the world.

The exterior of the new building will be renaissance in character, with an imposing central Ionic portico of six columns of limestone, each twenty-eight feet high, approached by a monumental flight of granite steps. The lowest story will be constructed entirely of heavy rusticated limestone, and will carry two stories of red brick laid in broad joints with cornices, window frames, etc., of limestone. The front wall will be set back eighty feet from the line of Longwood Avenue, giving an opportunity for an approach by an esplanade paved with large slabs of stone.

The interior arrangement is the outcome of three or four years' study of the college's requirements made by the teaching staff in conjunction with the architects, and the result appears in the striking simplicity of the floor plan. The ground floor is devoted mainly to two great laboratories, the pharmacy laboratory, 65 x 62 feet, and the chemistry laboratory, 62 x 58 feet, each fifteen feet in height and having accommodations for about 400 students. In connection with these are the balance room, stock rooms, offices for the professors and a general room for men students.

The main floor contains two lecture rooms, for pharmacy and chemistry, respectively, each with accommodations for 300 students at a sitting, with adjacent offices for the instructing staff, and in addition, a monumental main rotunda, vestibule and staircase with floor of honed limestone and walls of Roman travertine, in which are placed tablets of purple Lepanto marble for inscriptions.

Opening from this corridor are the general office, with the dean's office adjoining, the library, a homelike room suited for comfortable study and free from any institutional appearance, the trustees' room, paneled to the ceiling in quartered oak with architraves and

chimney piece of verde antique marble, and large and pleasant quarters for the young women students. Check rooms, store rooms, public telephone booths and all other accessories are to be on this floor.

The main staircase leads to the George Roberts White hall, a beautiful assembly room with a seating capacity for 500, finished and paneled in chestnut with a stucco ceiling and a great stone chimney piece. At the head of the stairs will be a capacious foyer for the convenience of the audience during intermissions. In connection with George Robert White hall there are provided a buffet, a room for storing seats, ante rooms, facilities for illustration by films, etc. The top floor also contains the materia medica and biological laboratories, an alumni room, three class rooms and ample storage facilities.

Concrete exit stairways in towers run from top to bottom of the building. The entire construction is to be fireproof with steel window sashes and terra cotta and steel floor construction. The equipment includes an air washer, a fan ventilating system with thermostatic control, complete telephone system, indirect lighting and site will represent an outlay of over \$500,000. The architects are Kilham & Hopkins of 9 Park Street and contracts have been signed for the construction work with the Stone & Webster Engineering Corporation, the building to be completed December 1, 1917.

NEW YORK COLLEGE OF PHARMACY NOTES.

The special attention of the graduates and other friends of the College is called to a lecture to be given by Professor Curt P. Wimmer at the College meeting to be held on the evening of Tuesday, January 16, 1917. The subject of Dr. Wimmer's lecture will be "A Pictorial History of the College of Pharmacy of the City of New York." Dr. Wimmer has devoted a great deal of time to the study of this subject and has succeeded in assembling a considerable amount of historical material of interest. Pictures of the various buildings in which the College resided from time to time, pictures of men who have been prominent in the affairs of the College from its very beginning and finally pictures of publications, etc., issued or used by the College in the earlier days will be shown by means of lantern slides. These will undoubtedly serve to make the lecture one of intense interest. The meeting is open to all and a cordial invitation to attend is hereby extended.

With the termination of the Christmas holidays, the interest of the faculty and student body is now centered in preparations for the final examinations, which commence April 28.

It is planned to reorganize the conditions governing the award of the Trustees' scholarships which annually provide tuition fees for two second-year students, so that there will be brought about a more general endeavor on the part of students to secure such honors.

The College Orchestra is this year under the direction of Dr. George Schneider, of the Analytical Chemistry Department. Dr. Schneider has succeeded in getting together a very complete organization composed as follows: Violins—Miss Elizabeth Kish, '19; S. Jacoff, '18; S. Maser, '18; N. Castellucci, '18; Joseph Triner, '18; J. D'Urgolo, '18; Cellos—K. Kirkland, '17; Dr. C. W. Ballard; Clarinets—E. Mazzolini, '18; R. Ferguson, '18; Cornets—Miss May O'Connor, '17; W. Greenberg, '18; O. J. Blosmo, Special; Drums—David Feldman, '18; Piano—P. Cagnina, '18. Frequent rehearsals have been held and excellent music has been furnished at several of the student affairs.

Mr. O. J. Blosmo, of the Department of Pharmacy of the University of Minnesota, is doing special work with the College in the various departments. It has been very pleasant to have Mr. Blosmo in attendance and it is to be regretted that his leave of absence from Minnesota comes to an end in January.

Mr. William Macsata and Mr. Frank T. Green, formerly students at the Medico-Chirurgical College of Pharmacy, are completing their courses at the New York College.

Mr. Jose Blanco, who completed three years' work at the University of Michigan, is working for his Bachelor of Science in Pharmacy degree.

The second-year class has held its election, with the following result: *President*, D. E. Gitlow; *Vice-President*, S. Benjamin; *Secretary*, Miss Alma Adams; *Treasurer*, B. Markowitz; *Historian*, J. J. Coronel; *Reporter*, P. D. Bloom.

The College has received a framed and enlarged photograph of the late Professor John Oehler, the gift of his widow. This will be given a prominent place in the College collection as an inspiration to those who will come after. Those who know him will need no such reminder to keep alive the memory of John Oehler's sterling qualities.

WILBERT MEMORIAL MEETING.

Forty-one representatives of various branches of the pharmaceutical and medical professions gathered in the Philadelphia College of Pharmacy on Thursday afternoon, December 7, 1916, to do honor to the memory of Martin Inventius Wilbert, who passed away on Saturday morning, November 25th. Twenty-seven organizations of the chemical, pharmaceutical and medical professions were represented and Mr. Howard B. French, president of the Philadelphia College of Pharmacy, was chosen to preside at the meeting. Owing to pressure of other engagements, Mr. French relinquished the chair to Mr. George M. Beringer when the meeting was about half over. Robert P. Fischelis was chosen to act as secretary of the meeting. The following bodies were represented:

New York Branch of American Pharmaceutical Association.

New York College of Pharmacy.

Baltimore Branch of American Pharmaceutical Association.

Maryland College of Pharmacy.

New Jersey Pharmaceutical Association.

American Pharmaceutical Association.

American Chemical Society.

American Therapeutic Society.

American Academy of Medicine.

American Medical Association.

Pennsylvania Medical Association.

Pennsylvania Pharmaceutical Association.

Pennsylvania Society for Prevention of Tuberculosis.

United States Pharmacopoeial Revision Committee.

National Formulary Revision Committee.

Council on Pharmacy and Chemistry of the American Medical Association.

Pennsylvania Board of Pharmacy.

College of Physicians of Philadelphia.

Philadelphia College of Pharmacy.

Philadelphia Branch of American Pharmaceutical Association.

German Hospital.

Philadelphia Association of Retail Druggists.

Philadelphia Drug Exchange.

Philadelphia County Medical Society.

Philadelphia Pediatric Society.

Child Federation of Philadelphia.

Philadelphia Medical Club.

While the Secretary made note of the representatives present, Chairman French read communications from the following:

Dr. H. V. Army, New York City.

Dr. John B. Deaver, Philadelphia.

Mr. John F. Hancock, of Baltimore.

Mr. S. L. Hilton, of Washington, D. C.

Mr. Joseph L. Lemberger, Lebanon, Pa.

David J. Reese, Philadelphia, Pa.

Dr. I. V. S. Stanislaus, of Lock Haven, Pa.

Professor Remington moved that a committee be appointed which would as far as possible represent the associations taking part in the meeting, to draw up suitable resolutions, have them engrossed and sent to Mrs. Wilbert. The motion was seconded by Dr. F. E. Stewart, and carried. Professor Kraemer moved that a copy of these resolutions be also sent to Dr. Wilbert's parents. This motion was seconded by Mr. Thum and carried.

President French then declared the meeting open for comments on the life and activities of the departed. Professor Remington, in a few well-chosen words, related the circumstances connected with Dr. Wilbert's death and gave a general outline of his career in pharmacy. Dr. F. E. Stewart endorsed the sentiments expressed by Professor Remington and pointed out what a loss had come to professional pharmacy by the death of Dr. Wilbert. Mr. H. E. Smith, vice-president of the German Hospital, spoke of Dr. Wilbert's connection with that institution, landing his work very highly. E. G. Eberle read a beautiful tribute summing up the activities of Dr. Wilbert during his lifetime and referring to his influence upon modern pharmaceutical and medical thought. Dr. H. P. Hynson feelingly expressed his sense of loss through Dr. Wilbert's death as he had been an intimate friend of the deceased for many years and shared his views on the pharmaceutical problems of the day. He urged that Wilbert's life and works be made a subject of careful study by the coming generation of pharmacists as great good would surely come of his work if it be carried on to its ultimate conclusion. Professor Hostmann also expressed the view that Wilbert's influence on the younger men in pharmacy would be a profound one. Dr. J. W. Sturmer spoke of Dr. Wilbert's activities in the Philadelphia Branch of the American Pharmaceutical Association which he helped to organize, and said that the many printed pages in our pharmaceutical publications were monuments to Wilbert's career. His work has ceased but his influence will go on indefinitely. Professor C. H. LaWall referred to Dr. Wilbert's work as a member of the National Formulary Revision

Committee and as the author of "Digest of Comments on the Pharmacopoeia and National Formulary." Professor Henry Kraemer read a letter from one of Dr. Wilbert's brothers in which M. I. Wilbert's early history was portrayed. Dr. William D. Robinson, who had worked with Dr. Wilbert at the German Hospital, commented upon his scientific attainments, especially in the operation and development of the X-ray. He stated that Wilbert had been of incalculable value to the medical profession and had been ready and willing at all times to assist physicians in their work.

Other speakers were Drs. P. Samuel Stout, A. T. Pollard, Charles L. Turnbull and Franklin M. Apple.

Mr. George M. Beringer concluded the remarks with a reference to the magnitude of Wilbert's work and then appointed the following Committee on Resolutions:

Chairman, Joseph P. Remington, W. D. Robinson, Henry Kraemer, E. G. Eberle, R. P. Fischelis.

The meeting adjourned at 4.25 P.M.

ROBERT P. FISCHELIS, *Secretary*.

RESOLUTIONS IN MEMORY OF MARTIN I. WILBERT.

The following resolutions have been sent to the JOURNAL from the German Hospital, Philadelphia:

MARTIN INVENTIUS WILBERT.

WHEREAS, The Board of Trustees of the German Hospital have learned with profound sorrow of the death of Dr. Martin I. Wilbert, which occurred on November 25, 1916, at this Hospital.

WHEREAS, The late Dr. Wilbert occupied the position of Apothecary in this Institution from 1891 until 1908, and Director of the X-Ray and Photographic Department from 1899 to 1908, leaving his labors with us after eighteen years of splendid service to accept a position of wider scope in the Federal Service at Washington, establishing by his signal ability and indefatigable perseverance a unique and enviable reputation in the world of Medicine and Pharmacy.

Resolved, That the Board of Trustees of the German Hospital deplore his early death at the age of fifty-one, while still in the prime of his life and activities.

Resolved, That the Board of Trustees tender to the family of our deceased friend their heartfelt sympathy in the loss which they have sustained.

Resolved, That a copy of this minute be sent to the members of the late Dr. Wilbert's family and that copies of these resolutions be sent to the *Journal of the American Medical Association*, to the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION and the *American Journal of Pharmacy*.

G. A. SCHWARZ, *President*.

ADOLF HELLWEGE, *Secretary*.

ST. LOUIS COLLEGE OF PHARMACY.

The advantages offered to students of pharmacy by the extensive and well arranged collections of a botanical garden formed the subject of a lecture delivered by Mr. William W. Ohlweiler, of the Missouri Botanical Garden staff to the students of the St. Louis College of Pharmacy.

Mr. Ohlweiler was introduced by Mr. William C. Bolm, a member of the Committee on course of study, who gave a brief account of the garden and its founder, Mr. Henry Shaw, who left it to the city in perpetuity by will in 1889. More than fifty years ago, Mr. Shaw, who was one of the founders of the St. Louis College of Pharmacy, declared that the facilities for study afforded by the garden should be free to the St. Louis College of Pharmacy.

Mr. Ohlweiler's lecture was in the nature of a general guide to the garden, and was illustrated with a number of very striking slides, showing the old formal garden as it existed during Mr. Shaw's lifetime and for some years after his death, and the garden as it is to-day with its spacious conservatories, growing houses, laboratories, libraries, etc. The collection of economic plants—in which are included those used for medicinal purposes—was especially mentioned, and attention called to the fact that types of nearly all medicinal plants can be seen in growth in the conservatories, even in the winter-time. In case the students of the College desire to visit the garden in a body they will be furnished guides by the garden officials, who will point out the situation of the various departments so that the students may know where to find things when they go out individually or in small groups.

So heartily is the Director of the Missouri Botanical Garden, Dr. George T. Moore, desirous of making it an adjunct to the various institutions of learning and others in which botany plays an important part, as in the drug trade for example, that, with the assistance of his staff, he has planned a number of

improvements designed to make it more efficient than it is at the present time, plans which are being carried out as rapidly as circumstances permit. The St. Louis College of Pharmacy students feel inspired by Mr. Ohlweiler's address to make practical use of the facilities of the garden in connection with Dr. Wall's lectures on pharmacognosy.

UNIVERSITY OF ILLINOIS SCHOOL OF PHARMACY.

The School of Pharmacy of the University of Illinois was represented at the Drug Show recently held at the Coliseum under the auspices of the Chicago Retail Druggists' Association. The exhibit of the school included a number of the new official preparations made by the students, among these preparations being the elixirs of low alcohol content and the petroxolins; series of extraction processes were shown; also a selection of specimens from the museum and photographs of the new college buildings and the laboratories showing the classes at work and the class picture of 1916. The exhibit of the school attracted a good deal of attention and was visited by a large number of persons, among whom were a large number of alumni. The school was well pleased with the result and expects to exhibit again next year.

In December, 1915, the University purchased for the School the property located at the corner of Wood and Flournoy Streets and comprising eight city lots with two large brick buildings. The new quarters were occupied in June, 1916.

The new location is in the great medical center of Chicago and close to the dental and medical colleges of the University. It is removed from the noise of the business district, yet is convenient to various lines of transportation.

The college property has a frontage of two hundred and one feet on Wood Street and one hundred and twenty-four feet on Flournoy Street.

The college buildings include two substantial brick structures, which are to be connected at each floor by a stair-tower building now under construction. Both have daylight from four sides and electric lights throughout, and are heated by steam.

The larger building, known as the College Building, is sixty by eighty feet square and four stories in height. It contains the offices,



the library, the museum, the microscopical laboratory, the bacteriological laboratory, a large auditorium, two smaller lecture halls, a recitation room, several preparation rooms and private laboratories for the teachers, students' rooms, and locker rooms.

The smaller building, known as the Laboratory Building, is forty-four by eighty-eight feet square and three stories in height. It contains the pharmaceutical laboratory, the laboratory for quantitative analysis, the laboratory for qualitative analysis and several private laboratories for the teachers, as well as store rooms and supply rooms.

THE PHARMACIST AND THE LAW.

ASSOCIATION MEMBERSHIP BY LAWS.

Several State laws practically require that a pharmacist, in order to be registered, must be a member of the State association. Iowa is now contemplating such enactment, Montana has such provision and the secretary states that when their State association was twenty years old the membership was less than one hundred; now they have one thousand members. Certainly required membership in a State association could be made an additional safeguard for the public.

NEW JERSEY BOARD SEEKS MORE POWER.

The New Jersey State Board of Pharmacy wants its powers increased to permit more stringent regulation of pharmacy in New Jersey. Numerous suggestions for additional legislation are made in the board's annual report to Governor Fielder.

The legislation sought is to give the president of the board power to issue subpoenas and take oaths in investigations to ferret out violations. The board also wants power to refuse

and revoke certificates to practice when applicants or druggists are not of good moral character, when registrations are obtained fraudulently or when applicant or druggist is addicted to narcotic drugs or stimulants and when convicted of two violations of the anti-narcotic law.

It is suggested that legislation should be sought to have reciprocal relations governing certificates with other states when the regulations of those States meet the requirements of the New Jersey board. The board also wants its rule amended so that students applying for licenses shall be graduates of a school approved by it. Another recommendation is that pharmacists should be required to display on the exterior of their stores the proprietor's name, and that of the registered druggist, in order to fix responsibility.

VACCINATION RULE UPHELD BY PENNSYLVANIA COURT.

In an opinion by President Judge Orlady, the Superior Court, November 13, sustained the decision of the Quarter Sessions Court in the case against William Gillen, who refused to send his two children, aged 9 and 10, to school because he opposed vaccination.

Gillen was found guilty before a magistrate of a violation of the act of May 18, 1911, known as the Compulsory School Law, and was sentenced to pay a fine of \$2 and costs. He appealed to the Quarter Sessions Court, where the conviction was upheld, and he then appealed to the Superior Court.

Section 1510, of the Compulsory School law, provides that: "Any pupil prevented from attending school on account of the health or sanitation laws of Pennsylvania or by the sanitary regulations of the local Board of Health or the Board of School Directors, is hereby relieved from complying with the provisions of this act concerning compulsory attendance, during such time as he is thereby prevented from attending school."

The act of June 12, 1895, known as the Compulsory Vaccination Law, provides that: "All principals or other persons in charge of schools are required to refuse the admission of any child to the school under their charge or supervision, except upon a certificate signed by a physician, setting forth that such has been successfully vaccinated, or that it has previously had smallpox."

THE COURT'S OPINION.

"This act, so far as it relates to the same

subject matter," Judge Orlady says, "must be read into and construed with the Act of 1911, as a relevant constituent of the School Law. This code is the result of many years of practical experience, and its beneficent provisions should be rigorously enforced, as it is the last expression of the legislative will on this subject."

The judge, in his opinion, discussed both acts at length, together with previous decisions in other cases.

"The exceptions mentioned in the compulsory school attendance act," he says, "refer only to temporary or emergent conditions during such time as he is thereby prevented from attending school on account of health or sanitation laws, or regulations of the local Board of Health or Board of School Directors," and cannot refer to such conditions as is urged by this appellant, to fix a permanent exemption from such attendance, on account of the individual opinion of the parent in regard to his propriety of complying with a health regulation.

"Individual objection to the requirements of the law must give way to the necessity for protection of the public health. Under the facts as presented by this record, the action of the Philadelphia school board was in strict conformity with the law, and the defense interposed by the defendant cannot, under our decisions, justify his refusal to comply with the law."

HOLDS BANK FOR BAD CHECK.

An unusual legal point was decided recently in Common Pleas Court No. 1 of Philadelphia when a bank was held liable for the amount of a worthless check because the bank officials had not notified the depositor "within a reasonable time" of the non-payment of the check. Lawrence J. Dietz & Co., brokers, brought the case against the West End Trust Company.

On July 11, the brokers received a check for \$250 from a customer. They deposited the check on July 12. On July 14, 16 and 18, the Clearing House returned the check because the funds had been withdrawn by the issuer. But not until July 20 did the bank notify the brokers. By that time the customer had closed his account and left town.

THE MANUFACTURER'S RIGHT TO FIX PRICES.

Associated Advertising says that those who cling to the thought that when the manufac-

turer sells his product to the retailer, the manufacturer's interest ends, and who, therefore, deny the justice of permitting the manufacturer to fix the resale price, might well weigh this question which a speaker recently asked his audience:

Suppose a retailer had his choice of having the Ivory soap people supply him with a case of unmarked cakes, in plain white wrappers, or having the soap delivered with the trade-mark affixed, as usual,—which soap would he prefer?

The answer is obvious, of course.

Why would the retailer prefer the soap bearing the maker's mark? Isn't it because the manufacturer sells the retailer more than mere soap? Isn't it because the maker hands over to the retailer an existing market, along with the goods to satisfy that market?

Isn't it the business of the manufacturer, in the interest of his own business, in the interest of other retailers to whom he is also delivering the existing market along with the soap, and on behalf of the public, to do what he can to keep that market from being destroyed?

The manufacturer could not be expected to stand aside and allow a retailer to change the soap in such a manner as to reduce its usefulness; and must he be compelled to allow that other asset, the existing market, to be injured? Is it not as proper for him to look after the preservation of the one asset as the other?

Most of the sincere opposition to price maintenance legislation has been based either upon the fear that the law would be technically in-

correct, or upon fallacious logic. The idea that a manufacturer would fix an unreasonable price, then blow his good money for advertising is too ridiculous to be considered. He would not spend good money making a market for some other fellow to supply!

SPECIAL FORMULA APPROVED FOR DENATURING ALCOHOL FOR TINCTURE OF IODINE.

The following formula, designated as No. 25, has been approved by the Commissioner of Internal Revenue for the special denaturation of alcohol to be used exclusively in the manufacture of the tincture of iodine:

"To every 100 wine gallons, by volume, of ethyl alcohol of not less than 180 degrees proof, there shall be added twenty pounds by weight, of iodine, such alcohol when so denatured to be used exclusively in the manufacture of tincture of iodine, in accordance with the requirements of the United States Pharmacopeia."

This formula cannot be used in central denaturing bonded warehouses or distillery denaturing bonded warehouses, but the use thereof is authorized for the denaturation of alcohol in central distilling and denaturing plants, the same being one of the two classes of industrial distilleries established under Subsection 2, of Paragraph N of Section 4, act of October 3, 1913, and Supplement No. 2 to Regulations 30.

Permission must be obtained to use a special denaturant in any central distilling and denaturing plant, as provided in Articles 2 and 19 of the supplement.

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of change of address is received before shipment or mailing.

Both the old and the new address should be given thus:

HENRY MILTON,

From 2342 Albion Place, St. Louis, Mo.

To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

CHANGE OF ADDRESS SINCE NOVEMBER 18, 1916.

HESS, J. L.,

From 2038 Cherry St., Philadelphia, Pa.

To 110 N. Second St., Millville, N. J.

FENDER, W. E.,

From Fort Monroe, Va.

To Camp Hosp., Laredo, Texas.

LA KAMP, W.,

From 1201 Vine St., Cincinnati, Ohio.

To The Georgian Flats, Madison Rd. & Paul, Cincinnati, Ohio.

HOLMANN, GEO.,

From 751 Courtland Ave., New York, N. Y.

To 2480 Concourse St., New York, N. Y.

SPEASE, ED.,

From 89 E. Norwich Ave., Columbus, Ohio.
To 10011 No. Blvd., Cleveland, Ohio.

GADDY, R. L.,

From Dillon, S. C.
To Greenville, S. C.

GIDLEY, WM. F.,

From 220 Sylvia St., W. Lafayette, Ind.
To 123 Russell, W. Lafayette, Ind.

SHNITTER, A.,

From 1230 Boston Rd., New York, N. Y.
To 804 E. 178th St., New York, N. Y.

GROOM, J. I.,

From W. Lafayette, Ind.
To Shelbyville, Ind.

BOXER, B.,

From 1412 Washington Ave., Bronx, New York, N. Y.

To 2023 Washington Ave., Bronx, New York, N. Y.

FASS, S. M.,

From 112 Delancey St., New York, N. Y.
To 1076 Teller Ave., Bronx, New York, N. Y.

SCHLOTTERBECK, J. O.,

From 907 Lincoln Ave., Ann Arbor, Mich.
To % Chemical Laboratory, Univ. of Mich., Ann Arbor, Mich.

DECEASED SINCE NOVEMBER 18, 1916.

WILBERT, M. I., Washington, D. C.

BOOK NOTICES AND REVIEWS.

The National Standard Dispensatory. Hobart Amory Hare, B.Sc., M.D., Charles Caspari, Jr., Ph.G., Phar.D., Henry H. Rusby, M.D. Third edition, enlarged and thoroughly revised. Publishers: Lea & Febiger, Philadelphia and New York.

The Ninth Decennial Revision of the Pharmacopoeia of the United States and the recent revisions of the German, French and English Pharmacopoeias necessitated a revised edition of this commentary. The intent of the authors, as set forth in their preface, is to present in this single volume "encyclopaedic information concerning all substances used in pharmacy and medicine at the present day." In the publishers' note the reader is likewise assured that "the aim has been to make the National Standard Dispensatory a reference work of the highest authority upon the entire range of *Materia Medica*, Pharmacy, and Therapeutics."

These are most laudable purposes, and it is with sincere regret that a critical review from the view-point of a pharmacist, who esteemed the good points of its predecessor *The National Dispensatory* and always admired the exactness of knowledge pharmaceutical, chemical and pharmacognostical displayed by his teacher and friend the late John M. Maisch, does not permit of the conclusion that these have been attained in the present edition. As this review is purely pharmaceutical no comments, whatever, on the therapeutics are submitted, and it is the hope that, in that respect, the work may well serve the purpose of the authors.

With the possible exceptions of binding, prefatory pages and index, the U. S. P. IX is

embodied practically in its entirety in this revised work and even the lists and tables of the Pharmacopoeia are incorporated. One is somewhat at a loss to understand why in a modern work statements of temperature, weight, volume or dimension must be followed by bracketted equivalents; as examples: "25° C. (77° F.)," "10 to 20 grains (0.60 to 1.30 Gm.)," "20 minims (1.3 mls.)," "25 mm. (0.98 In.)," "12 Cm. (5 In.)." Since the official tables of equivalents have been republished in the volume, this appears to be useless.

We note that the pharmacopoeial adoption of "mil" as a distinct noun has not been accepted and throughout it is used as an abbreviation, thus "Mil." and "Mils." The pharmacopoeial chemical formulas are quite frequently not followed and the official order of stating the elements is not observed. It should not be necessary to add after HCN "old style HCY." Specific gravities are generally stated at 15° C. instead of at the temperature officially adopted 25° C.; at times, these are given at both temperatures.

If the use of the metric system of weights and measures is ever to become the common practice in America, the commentaries must cease to transpose official formulas and statements into the denominations of the apothecaries' system. In the volume before us, this has been persisted in throughout and can be viewed only as another discouragement of, and postponement of, the adoption of the metric system.

The treatment of the botanical and pharmacognostical subjects is concise, accurate and commendably practical. Botanical descrip-

tions of drug-yielding plants have been introduced only in the cases of those likely to be met with by the general reader, or when the information is desirable for some special reason. Examples of such exceptions are noted in *Baptisia*, *Berberis aquifolia* and *Cascara Sagrada*. Very little space is devoted to descriptions of the histology or to the microscopical characteristics of the powdered drugs. The illustrations are intended to represent the drugs of commerce. In very few instances pictures of sections as appearing under the microscope are presented.

Many of the minor drugs are treated under their botanical classifications, each of the families containing medicinal plants being discussed in a short chapter. Under *Labiatae*, the authors have followed the plan of the systematic botanist and present a key for the recognition of the medicinal plants of that family. We are at a loss to understand why the genus *Ceanothus* (family *Rhamnaceae*) should be discussed under *Krameria*.

Some of the mistakes that have crept into the volume may be attributed to the desire to complete the publication at an early date and the acceptance of "advance information" instead of awaiting the positive knowledge obtainable only from the published revisions of the U. S. P. and the N. F. Diluted Metaphosphoric Acid is attributed to the N. F. although deleted from that work. The transfer of *Vanilla* to the N. F. is not noted and *Arnica Root*, *Cetraria* and *Thea* are wrongly credited to the N. F. The transfer of *Conium* from the U. S. P. to the N. F. is recognized in the title, but the assay process of the U. S. P. VIII is given instead of the present legal method of the N. F. IV. The statement is made that the N. F. requirement for *Rennin* is that "it should be capable of coagulating not less than 12,500 times its weight of normal fresh cow's milk," which is just one-half of the N. F. standard.

It is in the pharmacy and chemistry of the volume that we are compelled to note much that is faulty. The errors of omission and commission are too numerous to enumerate in detail within the limits of this review, and these are very largely traceable to the unexplainable ignoring of the fourth edition of the National Formulary. Since twenty-nine pages have been devoted to the consideration of the Federal Food and Drugs Act of June 30, 1906, the Rules and Regulations for

its enforcement and the Food Inspection Decisions thereunder, the authors cannot be unaware of the fact that Sections 6 and 7 of that Act specifically name the National Formulary as one of the two legal authorities of equal standing for prescribing the standards for drugs.

The United States Pharmacopoeia IX fully recognizes the equal authority of the National Formulary under the law. A drug or a preparation transferred from the U. S. P. to the N. F. must comply with the latter authority and changes made in the standard or formula must be complied with. It is surprising to note the numerous instances where the revised National Standard Dispensatory has failed to recognize this principle and the changes made.

Acetum Aromaticum N. F. is ignored and the formula of the German Pharmacopoeia is given. *Acetum Opii* N. F. is not mentioned. *Acidum Formicicum* of the German Pharmacopoeia is described and its tests translated, but the legal standard of the N. F. for *Acidum Formicum* and for the spirit of same is ignored. For *Acetic Ether* the definition of the British Pharmacopoeia and the tests laid down in the German and British Pharmacopoeias are given and the legal standard and tests for identity and purity laid down in the N. F. is not referred to. *Bromauric Acid* and *Ammonium Hypophosphite* and *Calcium Lactophosphate*, all N. F., are nowhere mentioned. The *Aluminum Chloride* and *Aluminum Sulphate* described are not the legal standards of the N. F. The *Ammonium Phosphate* described is not that standardized in the N. F. While *Antimony Oxide* N. F. is the title, the tests and assay of the N. F. are omitted. *Antimonii Sulphuratum* is the British Pharmacopoeia standard and not the N. F. The standard stated for *Bromine* varies from that of the N. F.

That *Cataplasm of Kaolin* and *Cerate of Lead Subacetate* are now N. F. formulas and that changes have been made in these appear not to have been observed. For *Confection of Rose* and *Confection of Senna*, the formulas of the British Pharmacopoeia are given and not the legal formulas of the N. F. despite the fact that these formulas were transferred from the U. S. P. and that the latter varies in composition from that of the British Pharmacopoeia.

The National Formulary contains formulas for nearly eighty elixirs, many of which are

exceedingly popular and daily prescribed and some of these assuredly deserve some consideration in an encyclopedic commentary on "substances used in pharmacy and medicine at the present day." Only three elixirs are considered under these titles, namely, the U. S. P. Aromatic Elixir and Elixir Glycyrrhizae and the German pharmacopoeial formula for Compound Elixir of Bitter Orange. In the latter, no reference is made to the fact that the N. F. has a formula under this title and varying somewhat from that of the German.

The Emplastra, Emulsa and Extracta of the N. F. receive no better treatment than that accorded the elixirs.

The National Formulary IV supplies the legal standards for ninety fluidextracts, thirty-one of these titles having been transferred from the U. S. P. VIII. Of this entire group, only a few are even incidentally mentioned. It is certainly more important to place before the reader and student, either medical or pharmaceutical, information concerning the legal standards for fluidextracts used in American practice, such as those of Berberis, Cotton Root, Echinacea, Valerian, Zea, etc., than to present formulas from the foreign pharmacopoeias that are little known or used here, such as the fluidextracts of *Belae* and *Picrorhizae*. It is misleading to give the formulas of the German, French and Swiss pharmacopoeias for Fluidextract of *Condurango* and not mention that the N. F. supplies the official American standard and that this legal formula directs a different menstruum.

The fact that the N. F. has supplied legal standards for Saccharated Iron Oxide, Iron Glycerophosphate, Iron Hypophosphite, Iron Lactate, Iron Pyrophosphate, Lithium Salicylate, Manganese Citrate Soluble, Manganese Sulphate, Oils of Orange Flower, Bitter Orange, Bergamot, and Sherry Wine, is overlooked along with a host of similar oversights. We are pleased to note that N. F. is added to the title of Oil of Bay, but for some reason the statements of the physical characters of the N. F. are deviated from. The Swiss Pharmacopoeia is quoted in Empyreumatic Oil of Birch and the legal standard for Rectified Oil of Birch Tar N. F. is ignored.

We find the British formulas for glycerites of alum and borax, but one looks in vain for the formula for Glycerite of Bismuth N. F. The Glycerite of Pepsin of the Br. P. has first place although the text admits that the N. F. preparation is "slightly stronger in digestive power."

Antiseptic Solution, Alkaline Antiseptic Solution, Dobell's Solution, Clemen's Arsenic Solution, Solution of Gold and Arsenic Bromides, all popular N. F. formulas are omitted.

The statement that the N. F. directs that infused oils be made with "a mixture of lard oil and cotton seed oil" is incorrect as the N. F. now directs sesame oil for that purpose.

In the Tinctures, we find that very few of the N. F. titles are mentioned and as a result such tinctures as *Bryonia*, *Cactus Grandiflora*, *Capsicum* and *Myrrh*, *Cocculus Indicus*, *Larkspur*, *Ferri Citro-Chloride*, *Ignatia*, etc., are not discussed and important information that should be presented on nearly fifty, more or less used preparations of this important class of galenicals, is omitted.

The treatment of the other important groups of preparations such as Pills, Syrups, Wines, Troches and Ointments, is similar to that accorded to the fluidextracts and tinctures.

Presumably, this dispensatory was prepared for the use and guidance of American practitioners and not especially for those of foreign lands. Yet, singularly, its abstracts and comments on the formulas and standards of the foreign pharmacopoeias are, as a rule, quite accurate, while, as necessarily pointed out, its ignoring, at times, of American standards and its numerous inaccuracies in the statements regarding these must detract very materially from its value. The value of such commentaries depends entirely on the correctness of the information they attempt to impart. If the information is erroneous or misleading, as occurs in many instances in the present volume, it becomes not only a misleading guide, but also one that would prove dangerous because of the fallacies in the practice of pharmacy and the false standards it may inculcate. Another revision of this third edition should be promptly made so as to correct the numerous errors, types of which have been pointed out.

G. M. B.

JOURNAL ANNOUNCEMENTS.

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THE JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

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JOHN H. DAWSON

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JOHN H. DAWSON.

John Henry Dawson was born in New York City in 1852. He was apprenticed at an early age to Edwin Rulon, a well known pharmacist of his day, in Brooklyn. His compensation was only \$50.00 for the first year and twice that sum for the next year! What would the apprentice say to that now? Besides, the work began very early in the morning and continued until late at night. From Rulon's he went to Parrish's at Philadelphia. Edward Parrish occupied the Chair of Pharmacy in the Philadelphia College of Pharmacy at that time, and from this institution the subject of this sketch graduated in 1872. He returned to New York after graduating and was behind the dispensing counter in Alexander Hudnut's Pharmacy at 218 Broadway until 1875, when he came to San Francisco.

Mr. Dawson at once identified himself with pharmacy of the Pacific Coast, and also with other business interests and took a more or less active part in municipal and state affairs. He first engaged in business for himself at Twenty-third and Valencia streets and conducted this successfully until it was merged into a chain of stores of the Union Drug Company. Mr. Dawson was active in the enactment of the California Pharmacy Law and was appointed a member and also elected secretary of the first California Board of Pharmacy. He was until last year a director of the California College of Pharmacy, and its president for two years.

In 1905, Mr. Dawson was appointed special examiner of drugs at the port of San Francisco, and retained that position until the office was discontinued. For eight years he was also U. S. Inspector for California, in a position requiring the polarization of all beet sugar produced in the State.

In 1916, after leaving the Government service, Mr. Dawson went to Southern California and purchased a pharmacy at Glendora, where he lives, happy amid the orange groves, with his wife, formerly Miss Hattie West of Brooklyn, and a daughter. Besides being a life member of the American Pharmaceutical Association, Mr. Dawson also has fraternity connections, is a member of the pharmaceutical bodies, a member of the California Chemical Society, California Institute of Art, Olympic Club, etc.

The substance of this sketch was furnished by a classmate and friend of many years who concludes by saying "that the esteem in which Mr. Dawson has always been held by his associates is great, and proven by the hosts of friends in the State of his adoption, and in the autumn of his life, his activities, his interest in his profession is just as strong with him as in the days when in the vigor of youth he exercised with the pestle at Rulon's and Hudnut's."

EDITORIAL

E. G. EBERLE, Editor

253 Bourse Bldg., PHILADELPHIA

DOING ONE'S BIT.

RARELY in the sixty-four years of the life of our Association has there been more discussion of the problems related to its welfare than during the past few months. Such discussion is either good for the Association, or bad for it, according to the spirit in which it is conducted. If it is constructive criticism, it will be of great service; if it is captious fault-finding, unaccompanied by a genuine effort to aid in making our Association what it should be, it is a waste of both time and energy.

This is not the time to discuss criticism that is mere nagging. Honest differences of opinion concerning the momentous problems that are now before those responsible to the membership at large for the welfare of the Association is in itself a healthy sign. That these differences are being solved is the best guarantee of the future of our well-beloved organization. But it is equally true that the problems will not be solved by the Council unless each individual member considers it his duty to "do his bit" in helping the officers and the members of the Council.

There is no getting away from the fact that each of us gets for his annual subscription a larger return for his investment than on any similar sum spent elsewhere. Some feel we are getting too much but this point we will pass over in order to emphasize the important fact that the ability of the Association to continue giving the splendid return now afforded each member depends entirely on how fully each member realizes his responsibility in promoting the welfare of our Association.

The two greatest needs of the Association at this time are: first, an increased membership; second, a more liberal patronage of the advertising pages of our JOURNAL. These two needs will not down and were the first solved; the second would almost reach the vanishing point. There is no reason why our Association should not eventually have fifteen thousand members.

During the past year one local Branch of our Association, thanks to the energy of the chairman of the Membership Committee, backed by his enthusiastic colleagues, was able in a single year, to increase the A. Ph. A. membership of its district by fifty percent. If every Branch and every unattached member of our Association did likewise we would have 4,000 members by 1918.

As to the advertising side of our JOURNAL, each increase in our membership (subscriber) list means an increased value of our JOURNAL as a publicity medium. When we consider the type of pharmacy represented in our membership; when we realize that the censorship rules of the JOURNAL bar any advertisement except those of the highest grade, we will appreciate that in its field the JOURNAL's ad-

vertising pages are as desirable a means of publicity as are the pages of *Harper's Magazine* or of the *Independent*. There are a lot of magazines that have a wider circulation than the two publications just mentioned and yet there is little doubt as to the decision of the discriminating advertising man if he were asked which was the best publicity medium, one of those mentioned or one that reaches an indifferent or unproductive class of readers, even though the latter publication might have the circulation of one million.

It behooves each of us who is a member of the American Pharmaceutical Association to point out to friends who are advertisers but who have not yet decided to patronize the pages of the JOURNAL, the unusual merits of our publication as an advertising medium. We have members in every part of this great country of ours. If each of us would consider himself an advertising agent to the extent of bringing one acceptable contract for the JOURNAL, there would be no question as to the financial ability of our Association to furnish its members with the splendid *quid pro quod* that now obtains.

In this editorial, the word "we" is not used in the customary journalistic sense. It is not used as the device originated by modest representatives of the Fourth Estate to conceal the personality of the shy individual occupying an editorial chair. On this page of the JOURNAL of this our much loved Association, "we" should mean each one of our 2,700 members working in harmonious coöperation not merely to keep our organization up to the glorious traditions of its past, but, if that is possible, to even broaden the scope of its influence and of its service.

H. V. ARNY.

OUR PATENT LAWS SHOULD BE AMENDED.

IN this issue of the JOURNAL will be found two papers dealing with American patent laws and relating to patent-protection of chemical compounds. Comment on the subject would be a mere attempt to repeat the excellent presentations by Messrs. F. E. Stewart and J. W. England, so the only purpose of this writing is to emphasize a point or two that has been developed. American citizens are entitled to the same consideration given by foreign manufacturers to those of other countries. Unless the United States exacts contributions that create a larger expense for these manufacturers than obtains in other countries, then it should be possible for the dealers of the United States to procure these chemicals at practically the same prices paid by those of other countries. It is admitted that manufacturers have the right to exact whatever price purchasers will pay for their products, but by the same or better reasoning the latter may use every means at their command, and not in violation of right and law, to buy at the lowest possible prices.

American pharmacists may conclude that it matters not what an article costs them, they figure profits on cost. As a matter of fact if the products referred to

could be obtained at prices charged for them in other countries, there would be the possibility of larger relative profit. But the fact remains that there is no plausible reason, as far as we can see, why citizens of the United States should pay relatively more than Canadians for the very same articles. It, therefore, devolves upon dealers to protect their patrons against excessive charges, if this is possible. In other words, even if it matters not whether the price is one dollar or twenty cents to the pharmacists, that the consumers pay the profit, there still obtains the duty of protecting the latter, if it is possible so to do. So then, the first reason for a correction of our patent laws in this respect is in the interest of the consumers.

The second consideration is for the American manufacturers and development of our chemical industries. Our first duty should be a consideration of our own manufacturers. According to our views the product-protection of chemical compounds hinders the development of the American chemical industries. We should have reciprocity along these lines and make the same or like demands upon foreign manufacturers that their respective countries require of American manufacturers. In the final analysis this may be found somewhat impracticable, for trade between countries must be continued on a satisfactory basis, but it is beginning to dawn on everyone concerned that the relation has not been the proper one, and that an adjustment is mandatory. There may also be certain agreements between the United States and foreign countries that will require adjudication, but certainly the condition now existing can not be a permanent one, and is subject to arrangement.

The chemical industries of this country have received an impetus and their development should be encouraged in every possible way. Congress should, in furthering these interests, give serious attention to amending the patent laws and provide means for constant, proper supervision so that the citizens will be protected against discrimination, and the American manufacturers further encouraged in the development of the chemical industries.

Pharmacists have in the furtherance of this legislation an opportunity to serve their patrons with profit to themselves, promoting American chemical industries and benefiting pharmacy. Read the contributed articles carefully and then correspond or confer with your senators and congressmen. E. G. E.

THE NATIONAL DRUG TRADE CONFERENCE.

FOR a fund of useful information anent national legislation, the readers are referred to the report of the National Drug Trade Conference held in Washington, January 16th, reported by Secretary Charles M. Woodruff and printed in this issue of the JOURNAL.

The Conference has unanimously endorsed the Kern-Doremus poison-mailing bill, which provides for carrying drugs of all kinds through the mails, with proper safeguards written into the law. The Post-office Department is endeavoring to pass a measure which seeks to restrict the traffic by mail to responsible parties.

The former provides restrictions in accord with the character and strength of the drug, and the other places the responsibilities on the senders and recipients.

The only amendment recommended for the Harrison Law is that of Section 8, which would make it unlawful for a person, not registered under the law, to have in his possession the proscribed drugs and making possession under such conditions *prima facie* evidence of violation.

The Conference, while recognizing the importance of Compulsory Health Insurance, recommends that legislatures be importuned not to be hasty in passing measures of this kind, until the subject can be carefully studied from every angle by commissions specially appointed for thoroughly investigating the question.

The usefulness of the Drug Trade Conference is becoming more and more apparent, composed as it is of representative members of the various drug trade organizations. Its influence for good is a factor not only in properly shaping legislation, but for bringing about desired coöperation between these interests.

E. G. E.

THE NATIONAL ASSOCIATION OF BOARDS OF PHARMACY AND PHARMACY LEGISLATION.

UNDER Pharmacist and the Law we are presenting some of the recommendations of the National Association of Boards of Pharmacy in the promotion of uniformity in pharmacy laws. The sentiment is growing that boards of pharmacy should act in harmony in the matter of college graduation prerequisite, not only as a necessary progressive step, but because it will bring about a more uniform standard in board examinations.

The public is entitled to know who the owner of a pharmacy is; it is equally as important information, as knowing the name of a physician into whose care patients give themselves; the same thought applies in a relative degree to registered pharmacists.

The provision, requiring the display of certificates of registration and also of the names of the registered pharmacist in charge of drug stores is advocated by the Association, and the requirement should be made part of every pharmacy law.

Another point brought out by Secretary H. C. Christensen is that the United States Pharmacopoeia and National Formulary being essential to the proper conduct of a pharmacy, the law should make it mandatory that copies of the latest revisions be in every drug store. This may seem a superfluous inclusion, but the fact remains that some druggists do not use these standards as their guide in pharmaceutical manufacturing and dispensing. Even medical laws should require that the U. S. Pharmacopoeia and National Formulary be in the offices of practicing physicians. These standards are certainly necessary for intelligent and careful prescribing.

E. G. E.

THE PRODUCT-PROTECTION OF CHEMICAL COMPOUNDS.*

BY J. W. ENGLAND.

The crux of the situation with reference to the patent-protection of chemical compounds, more particularly the synthetics, in this country, is to be found in our system of *product-protection*. We not only permit the copyrighting of the title of a chemical compound and the patenting of the process for making it, but—and this is the vital point—we permit the first inventor to patent the product *as such* and thereby estop all future inventors from marketing the same product no matter how made.

It is hardly necessary, at this time, to cite examples of the thousands of synthetic compounds that are made in Germany and process-patented and product-patented in this country, but, for illustration, we shall call one of these "X," and it is a widely used compound. Prior to the European conflict "X" sold in this country for about 40 or 50 cents an ounce (wholesale) while the price in London was equivalent to about 8 or 10 cents an ounce. To-day, war conditions prevail and a comparison of prices cannot be made.

Personally, I have no criticism to make of the "X" owners for exacting the highest price possible they can of the American public, even if this price is four times as much as that asked for the same compound in Great Britain. They are clearly within their legal rights in so doing. But I do blame the American public for not demanding a revision of the patent laws insofar, at least, as relates to the product-protection of chemical compounds, *because the law prevents the growth and development of an American industry*.

"X" cannot be marketed and sold in this country except by the owners of the patent, who have product-patented the compound, even if it be made by an entirely new and original process of manufacture and the process has been patented; this has been decided by the Federal Courts.

But in Germany for example, "product patents" are not recognized, and "X" can be made by any other process than that used originally for making it and can be marketed.

Under the U. S. patent laws no one but the owners of "X" can market and sell it in this country, and as these owners alone have the monopoly of sale, they can fix the selling price. American manufacturers generally might make this compound by new and original processes, but under the consistent rulings of our courts they could not sell the product they made in this country; they could make and sell it in Germany.

The U. S. Patent Laws as applied to chemical compounds are in need of radical revision if the growth of the organic chemical industry of this country is to be promoted. These laws have not been revised for years and are distinctly inferior in their protection of native industries to the patent laws of foreign countries.

The patent laws of our country should be amended to provide:

* Read before the Philadelphia Branch, American Pharmaceutical Association, January 17, 1917.

(1) That no grant of American patents be made to citizens of foreign nations unless the foreign nation represented grants similar patents to American citizens.

(2) That no grant of American patents to citizens of foreign nations be made except by agreement that the patented invention be manufactured in this country and within two years of date of letters-patent.

(3) That all patent grants be limited to processes, machinery and apparatus, leaving the products themselves uncontrolled.

In other words, our system of patenting "products" should be abolished or limited. It should be remembered that a chemical compound differs fundamentally from a piece of machinery in that it has an exclusive individuality. There are no two of a kind. A piece of machinery has individuality, also, but it is not exclusive. Any number of pieces of machinery may be devised to perform the same function. Hence it would seem reasonable that the inventor of a process patent of a compound should have product-protection, but the door should not be closed to new inventions. The Commissioner of Patents should be authorized to "suspend" the life of a "product patent" if it can be demonstrated that the product can be made by an entirely new and original process, and it might be desirable to provide, also, that the inventor of the new process shall pay the original inventor an equitable royalty (to be determined by the Commissioner of Patents) so long as the "life" of the *process patent* of the original invention lasts. In this way, the original inventor could lose no property rights, if he has any.

(4) That capital in the development of new inventions relating to synthetic chemical compounds be protected as provided in the German Patent Law, which reads as follows:

"If the invention relates to a process for the production of a new substance, all substances of like nature are considered as having been made by the patented process until proof to the contrary is given." This means that the burden of proof legally is upon the new inventor.

(5) That the copyright, patent and trademark laws be amended to specifically state that the generic titles of medicines are not copyrightable or patentable. Circular No. 19 issued by the Librarian of Congress gives copyright information, but it is not a part of the law. It reads as follows:

"Copyright laws contain no provisions under which protection can be obtained under a mere name or title. Entry can not, therefore, be made in the Copyright Office for coined names; names of articles of manufacture; names of games or puzzles; names of substances; names of products or names of medicines."

(6) That the use of trademarks for the purpose of distinguishing between "brands" of articles of commerce is under proper conditions, both legitimate and commendable, as it promotes superiority in the manufacture of products of a like kind.

Doubtless, some improvement could be had by a better enforcement of existing laws.

The business of the U. S. Patent Office is ably and skillfully handled, but it is largely governed, as it must be, by the decisions of courts of law and by precedent.

The determination of patent questions is a technical and scientific matter, and the greatest obstacle in the way of patent reform is the ignorance of the legal

fraternity, including both the Bench and the Bar, in the sciences of medicine, pharmacy and chemistry and the arts or technical applications of the same.

Take the Adrenalin Case for example. The Court frankly confessed itself incompetent to pass a correct judgment, but as the law provided no way whereby the Court could call on expert advice, it was forced to do the best it could.

Unquestionably, when the issues of a patent case bear upon technical or scientific knowledge and judgment, as do many patent cases, the law should provide a method, both for legal and administrative work, whereby a technical expert or referee or board of referees, could be called upon to examine the evidence and report findings of facts, at the expense of the Federal Government. The Government employs lawyers to pass upon technical questions of law; why should it not employ technical referees to assist the court to pass judgment upon questions beyond the ability of court and jury to properly understand?

If this were done, the technical and scientific defects of patent legislation would be disclosed and remedial measures could be readily adopted.

A DISCUSSION OF THE PAIGE BILL, RELATING TO A PROPOSED REVISION OF THE PATENT LAW.*

BY F. E. STEWART.

In the House of Representatives, February 21, 1916, Mr. Paige of Massachusetts introduced a bill for the revision of the patent law, which was referred to the Committee on Patents and ordered to be printed. This bill is known as H. R. 11967. It is a bill to amend Sections 4886 and 4887 of the Revised Statutes relating to patents. It provides:

(1) That no patent shall be granted on any application filed subsequent to the passage of this act upon any drug, medicine, medicinal chemical, coal-tar dyes or colors, or the dyes obtained from alizarin, anthracene, carbazol, and indigo, except insofar as the same relates to a definite process for the preparation of said drug, medicine, medicinal chemical, coal-tar dyes or colors, or dyes obtained from alizarin, anthracene, carbazol, and indigo.

(2) That in case any drug, medicine, medicinal chemical, coal-tar dyes or colors or dyes obtained from alizarin, anthracene, carbazol, and indigo, on which a patent for a definite process for the preparation thereof has been granted on any application filed subsequent to the passage of this Act is not manufactured in the United States by or under authority of the patentee within two years of the granting of said patent, and after the commencement of said manufacture the same is not continuously carried on in the United States in such a manner that any persons desiring to use the article may obtain it from a manufacturing establishment in the United States as against any citizen of the United States who may import such drug, medicine, medicinal chemical, coal-tar dyes or colors, or dyes obtained from alizarin, anthracene, carbazol, and indigo into the United States, or who may produce or manufacture the same in the United States or who may handle for sale or use such article so imported or manufactured.

Now what do these provisions mean in common language?

Briefly, they mean that if the bill is passed, no patents can be granted in the future for the kinds of chemical products mentioned in the bill, but patents for processes for producing the same may be granted, and that the patentee of a new process for manufacturing any one of the said kinds of chemicals, shall manufacture

* Read before the Philadelphia Branch, A. Ph. A., January 17, 1917.

and produce the same in the United States within two years after the patent has been granted or forfeit the right to prevent others from importing or manufacturing for sale in this country, said products when made by the patented process.

Do we want to endorse this bill?

To answer this question it is necessary to consider the question of copyright or the right to copy writings and inventions, first as to the right itself and secondly as to the present laws relating to the patenting of inventions.

The question of copyright, which includes that of patent, is one of the most important subjects relating to man in the control of a civil government. The arguments for and against copyright were fought out in the so-called "Copyright War," which occurred in England about a century ago. The position taken by Lord Camden in opposition to copyright so well expresses the position of scientists generally in relation to patents that it is worthy of consideration at this time. In his speech Lord Camden said:

Glory is the reward of science, and those who deserve it scorn all meaner views. I speak not of the scribblers for bread, who tease the press with their wretched productions. Fourteen years are too long a period for their perishable trash. It was not for gain that Bacon, Newton, Milton, and Locke instructed and delighted the world. When the bookseller offered Milton five pounds for his *Paradise Lost*, he did not reject it and commit his poem to the flames, nor did he accept the miserable pittance as the reward of his labor; he knew that the real price of his work was immortality and that posterity would pay it.

The position of his opponents is well illustrated by the following quotation from Terril in his treatise on patent laws:

The theory upon which these laws rest is that it is to the interest of the community that persons should be induced to devote their time, energies, and resources to original investigation for the furtherance of science, the arts, and manufactures. This was recognized from the earliest periods which can pretend to be described as civilized. It is to the advantage of the whole community that authors and inventors should be rewarded, and no measure of reward can be conceived more just and equitable and bearing a closer relation to the benefit conferred by the particular individual than to grant him the sole right to his writing or discovery for a limited period of time.

In spite of Lord Camden and his brilliant speech, copyright legislation was successfully introduced in England, and I doubt whether the glory of Bacon, Newton, Milton and Locke would have been dimmed in the least if they had copyrighted their books and made arrangements with publishers for a share of the profits from their sales. And, in spite of the opposition of the medical profession, the patenting of materia medica inventions will probably continue, and it is possible that the time will come when physicians will consider the patenting of inventions just as ethical as the copyrighting of books.

What I have to say, therefore, is not intended as a protest against the application of copyright and patent laws to medicinal drugs and chemicals. I believe that if the copyright and patent laws were properly interpreted and applied to medical science and practice and to the arts of chemistry, pharmacy and drug therapeutics, they are capable of promoting progress in the sciences of medicine and chemistry and in the arts referred to. In fact, I go so far as to say that the laws, as they now exist, if properly applied would be adequate to secure this object.

Section forty-eight hundred and eighty-six of the present patent law provides that "Any person who has invented or discovered any new and useful art, machine, manufacture or composition of matter, or any new or useful improvement thereof, not known or used by others in this country before his invention or discovery there-

of, and not patented or described in any printed publication in this or any foreign country before his invention or discovery thereof, or more than two years prior to his application, and not in public use or sale in this country for more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law and other due proceedings had, obtain a patent therefor."

The patent law also provides that the application for patent shall be so worded as to be perfectly intelligible to those who are engaged in the practice of the art or arts to which the patent belongs or most nearly appertains, so as to permit all such persons to freely manufacture and deal in the article after the patent expires and to readily do so in accordance with the directions for so doing contained in the application for patent.

I have said that the object of the patent law is to promote progress in science and useful arts. You will find by referring to the United States Constitution, Article I, Section VIII, Paragraph 8, that Congress is given the power to promote progress in science and useful arts by granting to authors and inventors for limited times, the exclusive right to their respective writings and discoveries.

A patent is a *grant* on the part of the Government representing the public at large, bestowed upon the inventor of a new and useful invention in exchange for the publication of his invention in such clear and precise language as to permit any person skilled in the art to use this knowledge in a legitimate manner, namely, for his own enlightenment as to the nature of the grant at the time the grant is given, and to permit him to manufacture and sell the same article on equal terms with the inventor when the patent expires.

A patent is a *contract* by and between the inventor and the Government, by the terms of which the Government provides the inventor with the machinery of the courts, by means of which he is permitted to protect his right to the exclusive use of the invention and in exchange for the same the inventor divulges the knowledge of his invention for the benefit of science at the time the grant is given, and relinquishes all claims to proprietary rights in the invention when the patent expires.

As already stated, the Paige Bill is intended to limit the patenting of certain chemicals mentioned in the bill to processes for their manufacture, leaving the products themselves open to competition so that others may be stimulated to invent new processes whereby said chemicals may be produced of a better quality or at a lower price during the lifetime of the patent. In other words, no monopoly of the products themselves is permitted, the only monopoly being processes governed by patents.

Is it wise to limit the patenting of this class of chemicals to processes only?

Let us consider what course other countries have pursued in relation to product patents in this connection.

Medicines are excluded from patent protection in Germany, France, Austria-Hungary, Italy, Japan, Denmark, Norway, Sweden, Portugal, Russia, and a number of other countries.

Other classes of inventions excluded from patent protection in many countries as well as in Germany are foods, chemical products, and inventions relating to war material.

In all of these countries exclusion from protection of inventions relating to medicines or foods does not generally extend to those relating to processes or apparatus for their manufacture. In all foreign countries which exclude chemical products from protection, except Switzerland, inventions relating to chemical processes may be patented, and in nearly all such countries it is expressly provided by law that a patent for a chemical process by which a new chemical product is made shall in effect cover such product, unless it be shown that such product was made in fact by some other process. In other words, when a new product is discovered, and a process of manufacture is patented, no person is permitted to compete with the original patentee unless he is able to show that the process he is to employ for that purpose is not an infringement upon the patented process.

The German patent law excepts from patent protection: (1) inventions the application of which is contrary to the laws or public morals; (2) inventions relating to articles of foods, whether for nourishment or for enjoyment, and medicines, as also substances prepared by chemical processes insofar as the inventions do not relate to a definite process for the preparation thereof.

Patents are granted, however, for processes and apparatus for manufacture, and Section 35 provides a method for protecting inventors of processes for the production of new substances in the following manner: "If the invention relates to a process for the production of a new substance, all substances of like nature are considered as having been made by the patented process until proof to the contrary is given."

It will be noted that if the Paige Bill passes in its present form, the protection afforded to inventors of processes for the production of new substances will be denied to the inventor of the process. Let us briefly consider the subject from this point of view.

Take Ehrlich's invention for a process for manufacturing dioxydiamidoarsenobenzol, also known as "606" and salvarsan.

We are told that Ehrlich made an arrangement with the German chemical house of Meister, Lucius & Brünig whereby said house furnished him with the money necessary to carry on the "606" experiments which resulted in his discovery of dioxydiamidoarsenobenzol, with the understanding that if a product were obtained of sufficient value to warrant its commercial introduction it was to be patented and the patent controlled by the commercial house mentioned.

It is evident that this arrangement was made in the light of the German patent law, which excepted from patent protection the new substance dioxydiamidoarsenobenzol and all substances of like nature and that the patent was limited to a process for preparing said product, leaving the product open to competition so that any other person was at liberty and is now at liberty in Germany, to manufacture the product by any other except the patented process, provided the same is not an infringement upon the patented process.

When it is considered that "606" experiments were required before Ehrlich was able to discover a process by which dioxydiamidoarsenobenzol could be produced in a satisfactory manner, the reward given to him by his government in exchange for publishing his process, was certainly not excessive. An industry was established in Germany for the production of this product by the patented process which has yielded the inventor and the house acting as his agents, several

millions of dollars and has afforded employment for a large number of persons. Furthermore, the substance itself, known as salvarsan, has proved to be a new and useful invention. Thus it is evident that the granting of the patent to Ehrlich by the German government for a process by which this valuable substance has been produced in the manner aforesaid, has resulted in promoting progress in the science of medical chemistry and in the useful arts of medicine and pharmacy.

Now let us consider what has been done with this same chemical product in the United States.

Under the United States patent law no class of useful invention is excluded from protection. Any person who has discovered a new product to be used either as food or as a medicine may patent the same, and thereby acquire a monopoly of its production for a period of seventeen years. Foreign manufacturers take advantage of the United States patent law and patent their products in the United States. The monopoly thus acquired enables them to obtain a high price for their patented products during the life of the monopoly. The profit thus secured is not used for the benefit of American industries, but is applied to building up the industries of foreign countries at the expense of the American people.

This is well illustrated in the case under consideration. Salvarsan was patented in the United States before its commercial introduction into this country and I understand from good authority that fifty patents have been granted to the original patentee or his assigns, for the purpose of continuing the monopoly after the original patent expires, so that at the end of the seventeen years the original manufacturers will still be able to continue their monopoly. Furthermore, the name "salvarsan" has been registered as a trademark so that when the original patent expires the manufacturers will be able to continue their monopoly by means of product patent, process patent and trademark registration, indefinitely. By this means a German house is permitted to build up a great industry at the expense of the United States.

When this instance is multiplied by many instances of a similar kind in which product patents have been granted by the United States to foreign manufacturers without insisting that the manufacture of such products shall be carried on in this country, it becomes evident that our patent law as thus interpreted and applied does not promote progress in the arts of chemistry, pharmacy and drug therapeutics as carried on in the United States. In fact, it is a very serious hindrance both to science and to the arts referred to. It hinders science because it does not stimulate original research on the part of would-be inventors in this country. Neither does it build up United States industries.

The Paige Bill seeks to remedy this serious objection to our patent law by making it necessary for foreign patentees to manufacture their products in this country within two years after the patents have been granted.

A commission was appointed under act of Congress, approved June 4, 1898, to "revise the statutes relating to patents, trade and other marks, and trade and commercial names." It was urged before this commission, both at its hearings and in written communications read before it, that the United States patent law should be amended to exclude from patent protection both medicines and chemical products generally, at least insofar as such inventions are the inventions of subjects or citizens of the foreign countries which exclude this class of inventions from

patent protection, and it was contended then, and has been the contention ever since, that subjects or citizens of foreign countries should not be allowed to receive in this country patents for inventions which are not patentable in their own country.

Thus far the German manufacturing houses have been able to defeat this very desirable legislation. It has been argued that certain treaties between the United States and Germany which give us certain advantages will have to be abrogated to permit such a change in the law. It would seem to me that this question of treaty should be carefully looked into by Congress for the purpose of ascertaining the truth in regard to the matter and for the purpose of publishing the truth, so that the American people may have an opportunity to decide whether or not we are gaining more than we are losing by such a treaty as the one urged as an excuse for not so revising the patent law as to protect American inventors from what appears to be such unfair competition.

If the United States Government should conclude to limit patents to processes only, surely something should be done to throw the burden of proof upon those claiming to have invented new processes for producing the same products as those produced by the patented processes.

As suggested in the report of the Committee on National Legislation of the American Pharmaceutical Association, at its annual meeting in 1889 (see Proceedings of the A. Ph. A., Vol. 47, 1899, p. 63), "This might be done by compelling the inventors of alleged new processes to divulge them by applying for patents, so that the novelty in each case may be determined by the Patent Office. It is argued with force that it is the original inventor who conducts the expensive research which points out the way. It is he who sows the seed, and unless the new process should show decided novelty, and its inventor should pay a royalty to the original inventor, great hardship would often result, for the harvest would in many instances be reaped by those who have not sown, and the original inventor would have only his trouble for his pains."

"The existing rewards to those engaged in original research should be increased rather than diminished, and such investigations should be thus rendered sufficiently profitable to attract the very best talent of the land, and also to attract capital in aiding and developing research and progress in the field of medical chemical industry."

Finally, before closing what I have to say, permit me to call your attention to a closely related subject concerning which something ought to be done by our legislators. I am bringing it up in this connection because upon the clear understanding of the law relating to the question of trademarks depends the opinion of a good many manufacturers, as to the proper course for them to pursue in their attitude toward patent law revision.

It is believed by many that names may be patented or copyrighted. This is a very serious error which demands correction. As stated in circular No. 19, issued by the Librarian of Congress, "the copyright laws contain no provision under which protection can be obtained upon a *mere name* or *title*. Entry can not, therefore, be made in the copyright office for coined names, names of articles of manufacture; names of games or puzzles; names of substances; names of products, or names of medicines."

The manufacturers of many German synthetics patented their products under

the chemical names, and registered the coined names as trademarks. Now as the right to use a trademark is a natural right, and is protected by the common law—a manufacturer having just as much right to use his commercial signature for the purpose of indicating the source of his product as he has to sign his name to a check—that right does not expire like a patent. Consequently, the manufacturers hoped by this scheme to defeat the object of the patent law, which is to promote progress in science and useful arts by granting inventors the exclusive right to their inventions for limited times, in exchange for the publication of full knowledge thereof by the proper application for patent. However, "Uncle Sam" has something to say about this. He said it in the decision of the Supreme Court of the United States in 1895, in the *Singer Sewing Machine Case*. The decision reads as follows:

The result, then, of the American, the English, and the French doctrine universally upheld is this, that where during the life of a monopoly created by a patent a name, whether it be arbitrary or be that of the inventor, has become, by his consent, either express or tacit, the identifying and generic name of the thing patented this name passes to the public with the cessation of the monopoly which the patent created. Where another avails himself of this public dedication to make the machine and use the generic designation, he can do so in all forms, with the fullest liberty, by affixing such name to the machine, by referring to it in advertisements, and by other means, subject, however, to the condition that the name must be so used as not to deprive others of their rights or to deceive the public, and therefore that the name must be accompanied with such indications that the thing manufactured is the work of the one making it as will unmistakably inform the public of the fact.

This question of ownership of names was considered by the Commission appointed by William McKinley, President of the United States, for the purpose of revising the patent and trademark laws above referred to. The Commission held sittings in New York City and at the Patent Office in Washington, at which the Committee on National Legislation of the American Pharmaceutical Association was represented. In the opinion of the Commission, the control of the currently used names of patented products was settled once for all by the above decision of the United States Supreme Court. As one of the Commission, Mr. Arthur Greeley said: "The arrangement between the inventor and the Government is that the former shall surrender to the public his right to restrain the free use of the invention at the expiration of the patent, and it is not likely that the Government will permit the inventor to tie a string to his invention wherewith to pull it back after the patent expires."

As already stated, the contract between the patentee and the Government requires that the inventor shall relinquish all proprietary claims to the invention after his patent expires, so that all others shall have the opportunity to compete with him on equal terms. The ownership of the currently used name of an invention gives to the one who controls it a very unfair advantage over competitors because until another name is advertised and gains equal prominence with the currently used name, the public is not able to compete on equal terms.

Much of the difficulty now in the way of securing proper patent law revision might be obviated by drawing a clear line of demarcation between products and names of products on the one hand, and brands and names of brands on the other. For example, diphtheria antitoxin is a product. The currently used name of the product is diphtheria antitoxin. Both the product and the name of the product are free to all manufacturers. There are on the market a number of brands of

diphtheria antitoxin, each distinguished by the name of the manufacturer appended to the name of the product, as, diphtheria antitoxin Mulford, diphtheria antitoxin Squibb, diphtheria antitoxin Lederle, etc., etc. The product and the name of the product being free to science and also free to all manufacturers, is in a position for impartial discussion in the medical societies and by the medical press, without fear of reprisal if articles are published unfavorable to the use of diphtheria antitoxin, or charges of collusion between the manufacturers and the authors of the articles relating to diphtheria antitoxin, or the publishers of the same, if the articles are laudatory in character.

On the other hand, when the products themselves and the names of the products are commercially controlled they can not be properly introduced to science, and research concerning them promoted in a proper manner because the proper introduction of a new *materia medica* product requires the use of the educational machinery of the medical and pharmaceutical professions, *i. e.*, the professional press, societies, colleges, text-books, pharmacopoeia and dispensaries.

It is essential that the control of this educational machinery shall be protected from commercial exploitation and the teaching of error. This protection can not be afforded under a system of *materia medica* monopoly in which the products themselves and the names of the products are controlled by commercial houses engaged in their manufacture and sale. It is impractical for the medical press, for example, to carry on a professional propaganda in the reading pages of the journals in regard to commercially controlled products and at the same time to carry on a commercial propaganda in the advertising pages concerning the same products.

Or to take another illustration: Condensed milk is the name of a product—a product open to competition and free to anyone to manufacture under the name of condensed milk. “Eagle” brand, “Anglo-Swiss” brand and “White Cross” brand are names of brands. Condensed milk may be impartially discussed in the professional societies and by the professional press without fear or favor and at the same time these several brands may be advertised in the advertising columns. There is very little danger of a combination on the part of the manufacturers of condensed milk for the prevention of the publication of full information concerning the food value of condensed milk.

Trichlormethane is a product. The name is long and unwieldy, so a short, euphonious name was coined for it, *viz.*, “chloroform.” But the name “chloroform” is just as much the name of a product as trichloromethane; and when the product is ordered by one name, the dispenser is justified in dispensing the product under either name.

I have thus attempted in this brief paper—brief because a full treatise on this very important subject would require a book of many pages—to place before you the principles underlying the copyright, patent and trademark laws, for the purpose of making the Paige Bill as clear to you as is possible under the circumstances. Some of those who have read the bill insist that it is very difficult for them to understand. They insist that its language is not clear on account of the legal verbiage. I believe this point to be well taken. It would seem to me that the one way we can have a clear conception of it is to discuss the question of copyright, patent and trademark along the lines I have indicated in this paper and after we have decided

just what we want, place our conclusions in the form of resolutions in the hands of a committee representing the medical, chemical, pharmaceutical and legal professions, with the request that they present their report to a joint meeting of the several professions named and the business men engaged in the pharmacal and pharmaco-chemical industries for further consideration. Said report should be in the form of condensed statements supported by arguments explaining the reason why it is recommended for our adoption.

By unanimous vote, the Philadelphia Branch, A. Ph. A., indorsed the provision of the Paige bill limiting patents to processes only, to extend the provisions of the Paige bill to include all technical chemicals and food compounds, to ask that the manufacture of articles patented in this country be limited to this country save so far as reciprocity agreements with other nations may supersede such arrangement, and to ask that the plain statement be written into the patent, trademark and copyright laws that genetic titles of medicines are not subject to patent or copyright.—EDITOR.

VALUE OF ACADEMIC BASIS FOR TECHNOLOGY.

"Technical schools, unlike universities, have the definite object of training students to make their living in industry, and they make their course as practical and as little academic as possible. A technical school is sometimes connected with a university, and we can not in any case consider university training for industry without taking technical colleges into account. It must be admitted that if the best type of science training, even for industrial use, is the academic, the technical colleges are on wrong lines, and as technical colleges are doing splendid work, the idea put forward appears to be wrong.

"But it is not urged that the academic training is the best in every way, but that, on the whole, it is best because, first, the professors are able to effect it best; second, because a student has so little time to spare that it can best be laid out in acquiring a good sound foundation; third, a well-trained mind with the academic can easily acquire the technical outlook, too; fourth, because academic science trains the mind to reason rather than to memorize, and deals with the facts of nature instead of the ideas or doings of other men just as foolish and illogical as ourselves.

"More than this, if the universities converted themselves into technical colleges, academic science and with it technology would get moribund. Whether technical colleges are on the best lines is another question. They may be badly designed for training the best class of technologist, while well suited for doing the best for men who have little time, and must be content with an inferior general foundation and a superstructure which is to a great extent imitation technology.

Recently we have heard a great deal about universities helping in scientific research. Research in academic science has little to do with national industry. All such research is published, and technologists all over the world utilize the results wherever the research is carried on. Research in academic science has no direct effect on national industry, but it has a great influence in rousing scientific enthusiasm, which is most important. But the outcry for scientific research for the benefit of industry is made chiefly by people who have no clear idea of the difference between academic and technical research, or of their circumstances. It is largely due to science teachers backed up by newspaper writers."—Dr. J. Swinburne.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

PRELIMINARY NOTE ON THE VALUE OF BETA-IMINAZOLYLETHYL-AMINE HYDROCHLORIDE AS A STANDARD FOR TESTING PITUITARY EXTRACTS.*

BY PAUL S. PITTENGER AND CHAS. E. VANDERKLEED.

In a paper on "Pituitary Extract" in the *Journal of the American Medical Association*, August 8, 1914, page 476, Dr. George B. Roth suggested the use of the above histidin derivative as a standard for testing pituitary extracts. The U. S. P. Revision Committee later incorporated the following standard in the U. S. P. IX for Liquor Hypophysis:

"One mil of Solution of Hypophysis, diluted 20,000 times, has the same activity on the isolated uterus of the virgin guinea pig as a 1 to 20,000,000 solution of beta-iminazolyethylamine hydrochloride when tested as directed by the United States Hygienic Laboratory."

Before adopting a complex substance like the above as a standard for adjusting the strengths of commercial preparations, it would have been better, perhaps, to make a thorough study of a number of problems such as the following:

- 1—Degree of uniformity in the physiologic action of different available samples of the proposed standard substance.
- 2—Rate of deterioration of solutions of this substance.
- 3—Effect of sterilization on solutions of this substance.
- 4—Rate of deterioration of the substance itself.
- 5—Effect of repeated doses on the isolated uterus.
- 6—The toxicity of the substance as compared with Pituitary Extract.
- 7—The relative activity of a Pituitary Extract of the strength proposed by the U. S. P. IX and that of the commercial extracts as supplied by the leading pharmaceutical manufacturing houses.

As it would be impracticable as well as rather expensive to prepare a fresh 1:20,000,000 solution of the standard substance for each test, we thought it advisable to determine whether or not it would be possible to prepare a 1:1,000 dilution of the salt, put this up in ampuls and then dilute the contents of one of these ampuls to 1:20,000,000 for each test. In order to know whether or not it would be safe to do this it was necessary to determine the rate of deterioration of the solution when kept under different conditions.

Accordingly, a little over a year ago we made a solution of the salt, divided it into twelve parts and stored them for one year in the following manner:

(a) Sterilized	{	1—amber ampuls	} Kept in <i>light</i> .
		2—flint ampuls	

* Read before the Scientific Section of the American Pharmaceutical Association, Atlantic City, September, 1916.

- | | | | | |
|------------------|---|--|---|------------------------|
| (b) Unsterilized | { | 1—amber bottles
2—flint bottles
3—amber ampuls
4—flint ampuls | } | Kept in <i>light</i> . |
|------------------|---|--|---|------------------------|
- (c) Same as (a) but kept in the *dark*.
 (d) Same as (b) but kept in the *dark*.

After one year had elapsed tests were started in order to determine the relative activity of the solutions kept under different conditions. These tests have not been completed, but to date the following results have been obtained:

1—The solution in the *unsterilized amber ampuls* kept in the *light* was of exactly the same activity as the solution in the *unsterilized flint ampuls* kept in the *light*.

These ampul solutions, however, were 2.6 times as active as fresh solutions made from the same sample of the standard substance as was originally employed.

2—The solution in the *sterilized amber ampuls* kept in the *light* was of exactly the same activity as the solution in the *sterilized flint ampuls* kept in the *light*.

3—The solution in the *sterilized amber ampuls* kept in the *light* was of exactly the same activity as the solution in the *sterilized amber ampuls* kept in the *dark*.

4—The solution kept in the *flint bottles* in the *light* was of exactly the same strength as a new solution of the substance but only about one-third as active as the solutions which had been kept in the ampuls.

5—The solution kept in the *amber bottles* in the *light* showed practically no activity.

While it is hard to draw positive conclusions from this set of tests, and without endeavoring to explain the entire loss of activity of the material in the amber bottle kept in the light, it would seem that the solutions in ampuls whether kept in amber or in flint and whether kept in the light or in the dark all retain their activity. The surprising part of the result, however, was the fact that new solutions of the original substance possessed only about one-third of the activity of the solutions prepared one year before from the same sample. Did the dry salt lose physiologic activity at a greater rate than solutions of the salt preserved in ampuls or did the latter break down into substances possessing greater physiologic activity? That the former is probably the true explanation is indicated by comparisons with some commercial ampul solutions of beta-aminazoly-ethylamine hydrochloride which are described further on in this communication.

In order to determine whether or not sterilization influences the activity of these solutions a 1:40,000 dilution was prepared and then divided into two portions. One portion was filled into ampuls, sealed and sterilized for 15 minutes at 115° C., after which it was tested against the unheated portion. Repeated tests showed that both portions possessed the same activity. In other words, sterilization does not affect the activity of solutions of this substance.

The next step was to compare the activity of different available samples of the proposed standard substance.

It was impossible to satisfactorily carry out this set of experiments because due to the European War it was impossible to obtain new samples of the standard substance to compare with the one which we used in carrying out our experiments. We were, however, able to obtain ampuls containing a 1:1,000 dilution of the salt bearing two different laboratory numbers which we presume were made from two

different lots of the salt. Repeated tests showed that these two solutions were of exactly the same activity as a corresponding solution of our standard substance which was purchased a little over a year before. The original activity of this substance we do not know but the results given above show that the ampul solutions prepared from it one year ago are about three times as active as new solutions prepared from the same sample. This would tend to show that the substance used in preparing the ampul solutions which were supplied to us by the manufacturers of the substance must have been only about one-third as active as the substance which we used one year ago. Perhaps the manufacturers prepared these ampul solutions from some of the original lot from which we obtained our supply and their stock deteriorated at exactly the same rate as the sample in our possession.

In our preliminary work with this standard substance the uterus seemed to "play out" or become insensitive to the substance more quickly than when testing pituitary extract alone. This led us to believe that this substance might be more toxic than corresponding amounts of pituitary extract. Later experiments, however, had a tendency to dispel this idea. In order to prove this point we determined the minimum lethal dose of both preparations on guinea pigs. The results of these tests showed that the M. L. D. for a standard Pituitary Extract (H. K. M. Co.) is 5.75 mls per 250 Gm. body weight of animal. The M. L. D. of beta-aminazoly-ethylamine hydrochloride was found to be 2.0 mls of a 1:1,000 dilution per 250 Gm. body weight of animal.

According to the proposed standard for the U. S. P. IX a 1:20,000,000 dilution of the standard substance equals a 1:20,000 dilution of pituitary extract, or in other words, the standard substance itself is 1,000 times as active as pituitary extract.

According to our results on the toxicity of the two substances the standard is 2,875 times as toxic as pituitary extract. When used in the proportions employed in the isolated uterus test, therefore, their relative toxicities would be as 1 is to 2.87. When we consider the variations in the size of the dose of the unknown, however, the difference in toxicity is practically negligible.

We find, however, that the standard adopted by the U. S. P. IX is very low because by comparison we find that the commercial extracts, prepared by the leading pharmaceutical houses, which have been on the market for several years and to which physicians have become accustomed as to dosage, etc., are from 3 to 5 times as active as an extract of the new U. S. P. standard strength. This is unfortunate, as there is no reason why a weaker preparation than the ones to which physicians have become accustomed should be placed on the market. It is probable that manufacturers will continue to endeavor to supply pituitary extracts of the same strengths that they have been supplying in the past, marking such preparations "different in strength from the U. S. P." or perhaps "stronger than the U. S. P." Before it becomes necessary to revise the Pharmacopoeia again it is to be hoped that definite requirements can be drawn up for the test substance itself and that an accurate coördination of the required U. S. P. strength and of the common pharmaceutical practice may be secured.

FOWLER'S SOLUTION.*

BY H. ENGELHARDT AND O. E. WINTERS.

In looking over the reports of the various Health Boards, we find that there is hardly any pharmaceutical preparation which has oftener been found to be below standard than Fowler's Solution.

It is generally accepted that in Fowler's Solution frequently the arsenic in the arsenous state is oxidized to arsenic in the arsenic state, and that the discrepancies found by the various Health Boards are chiefly due to such an oxidation, inasmuch as, according to the U. S. P assay process, only the arsenic in the arsenous state is estimated.

In 1908, A. B. Lyons¹ reported on a series of experiments which were carried out in order to find at what rate this oxidation takes place. Lyons arrives at the conclusion that products which are slightly acid are not so prone to oxidation as those which are alkaline and especially those which contain alkali carbonates or alkali hydroxides.

Anticipating complaints in regard to Fowler's Solution, we thought it advisable to take up this subject again in order to find at what rate the oxidation of the arsenite takes place. This was done by estimating both the arsenous acid and the total arsenic.

A sample of Fowler's Solution was prepared strictly according to the U. S. P. This sample assayed 1.016 percent As_2O_3 at the time of manufacture. One quart of the solution was kept in an amber cork-stoppered bottle on a shelf under ordinary conditions, while another part of the sample was filled into one-ounce flint glass cork-stoppered bottles. The samples were assayed at intervals of one month by the following process:

The arsenous acid was estimated in the regular way with iodine. In order to save material we tried to utilize the final solution, which, after oxidation with iodine, contained all the arsenic in the arsenic state by applying to it Lukenow's method.² This was done by adding to the solution 3 Gm. of potassium iodide and 20 Cc. of concentrated hydrochloric acid, allowing the mixture to stand for 10 to 15 minutes and then titrating the separated iodine with thiosulphate in the

Month.	Large bottle.		Month.	Small bottle.	
	Direct.	Total.		Direct.	Total.
March.....	1.016%	1.023%	March.....	...	...
April.....	1.010%	1.010%	April.....	1.016%	1.019%
May.....	1.011%	1.018%	May.....	1.014%	1.021%
June.....	1.01%	1.015%	June.....	1.020%	1.015%
July.....	0.994%	1.030%	July.....	0.985%	1.021%
August.....	0.992%	1.024%	August.....	0.984%	1.025%
September.....	0.990%	1.032%	September.....	0.99%	1.02%
October.....	0.992%	1.038%	October.....	1.03%	1.044%
November.....	0.990%	1.04%	November.....	0.985%	1.04%
December.....	0.987%	1.04%	December.....	1.025%	1.04%
May.....	0.984%				
June.....	0.992%	1.04%	June.....	1.03%	1.04%

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

¹ Proceedings A. Ph. A., 1908, p. 901.

² *Apoth. Zeit.*, 1910, p. 122

Assay at date of manu- facture As_2O_3 .	Reassayed after months.	As_2O_3 .	Total arsenic. A. O. A. C. method.	Total arsenic. Chapin's modifications.
1.05	30	1.02	1.07	1.04
1.02	29	0.992	1.03	1.07
1.07	28	1.099	1.15	1.14
1.09	26	1.03	1.11	1.13
1.04	26	0.997	1.08	1.06
1.02	25	0.92	1.02	1.03
1.04	24	0.953	1.02	0.987
1.05	22	1.00	1.05	1.05
1.05	22	1.00	1.11	1.09
1.04	21	0.99	1.05	1.11
1.02	19	1.03	1.04	1.08
1.03	18	1.04	1.11	1.09
1.05	17	1.05	1.1	1.06
1.04	16	1.03	1.09	1.09
1.03	16	0.94	1.0	1.0
1.01	14	0.96	1.05	1.055
1.04	12	0.95	1.08	1.03
1.04	12	1.02	1.07	1.04
1.03	11	0.97	1.03	1.03
1.02	9	1.02	1.09	1.09
1.01	8	1.05	1.09	..
1.03	6	1.0	1.06	1.02
1.04	5	1.02	1.05	1.07
1.0	4	0.93	0.97	0.95
1.02	3	1.02	1.06	1.09
1.03	1	1.01	1.02	1.03

regular way. For reasons, so far unknown, this method did not work properly. The end point, when using starch solution as indicator, was very uncertain and a distinct blue color could not be obtained.

We therefore applied a method which is recommended for estimating the total arsenic in London purple. This method, a modification of Heywood's method,¹ is published in a slightly modified form in *Bulletin 107, Official and Provisional Methods of Analysis of the Association of Official Agricultural Chemists*. We have modified this method in the following way: 5 Gm. (exactly weighed) of Fowler Solution were mixed with 20 Cc. of concentrated hydrochloric acid; 45 Cc. of water and 2 to 3 Gm. of potassium iodide and the mixture were heated on a water bath for about one-half hour. After cooling, the iodine which had separated was discharged by sodium thiosulphate solution, the contents of the flask were then poured onto an excess of sodium bicarbonate and after well diluting with water (about 600 Cc. liquid in all) the arsenous acid was titrated in the usual way. Quite recently, Chapin² pointed out that when eliminating the iodine, formed in the reduction process, by thiosulphate solution no distinct color change in the titration of the arsenous acid could be obtained. He therefore recommends replacing thiosulphate solution by a weak (0.5 percent) sodium sulphite solution. We have applied this method also but have found that nothing is gained by this modification.

The experiments were made in duplicate and from the results referred to be-

¹ *Journ. Am. Chem. Soc.*, 1900, p. 800.

² *Ibid.*, 1916, p. 625.

low it can be seen that the degree of accuracy is not all that could be desired. In addition to the above named sample which was especially prepared for this examination we also examined samples of Fowler's Solution from our Control Department which were at the time of re-examination from a few weeks to three years old. The results obtained were as follows:

Judging from the above results, it is evident that the arsenous acid in Fowler's Solution is oxidized only to a very slight degree when the solution has been properly prepared and has been kept under ordinary conditions. It was very gratifying to note that the solution which was kept in a large bottle and from which, each month a certain amount was taken out for examination (thus giving about the same conditions under which the stock bottle of Fowler's Solution is kept in a drug store, that is, increasing the amount of air gradually), did not deteriorate as rapidly as might be expected. In regard to the color of the various solutions after being kept for various lengths of time, it might be stated that the color varied from a red to a very pale pink. In other words, in some of the solutions the color of the tincture of lavender had been destroyed completely. That, however, the decoloration of the tincture of lavender is in no way indicative of an oxidation of the arsenous acid is evident by the above results.

REFINING OILS WITH PERMANGANATE OF POTASH.

Since pale-colored oils are considered of better quality than dark or muddy ones, a special process of refining is employed for olive, linseed, poppy, fish, and other oils. According to *Por Esos Mundos* (Madrid) this is as follows: A kilogram of permanganate of potash (2.2 lbs.) in the form of small crystals is dissolved in 10 liters of water. This solution, of a deep purple color, is mixed gradually with 30 kilos of the oil to be refined and stirred repeatedly as smoothly as possible during a period of two days. At the end of this time there are added 20 liters of water and 5 liters of commercial hydrochloric acid at 20 to 22 degrees Baumé and it is stirred again energetically. Several days later the acidulated water is carefully decanted. To remove all trace of the acid it is treated with clear, warm water and as a final operation is passed through a charcoal filter.

FORMULA FOR AMBRINE.

T. Whitmore Peck of Birmingham, England, contributes the following to the *Pharmaceutical Journal* as the formula for Ambrine:

Resorcinol.....	1 percent
Oil Eucalyptus.....	2 percent
Olive Oil.....	5 percent
Hard Paraffin.....	67 percent
Soft Paraffin.....	25 percent

PHYTOCHEMICAL NOTES.*

From the Laboratory of Edward Kremers.

82. The Oleoresin and Oil of *Pinus jeffreyi*.

BY L. J. OSTLUND.

An oil from *Pinus jeffreyi* was examined by Venable¹ in 1880, who supposed it to be an oil from *Pinus sabiniana*, but Wenzell² later (1904) showed that it was from the related California species.

In 1901 Blasdale³ re-examined the oil for heptane and identified the latter by its boiling point and behavior toward sulphuric acid.

A material supplied by the Forest Products Laboratory was examined in 1913 by R. J. Harnon⁴ and was found to consist in part (about two-fifths) of terpenes. The oleoresin from Jeffrey pine had evidently been mixed with that from the western yellow pine, *Pinus ponderosa*, in the gathering.

Schorger,⁵ while he discussed the heptane situation, did not examine the oleoresin from Jeffrey pine, but expressed the hope "that this may be done later" (p. 18).³

Through the kind coöperation of the Forest Service and that of Mr. F. D. Fryer of Santa Rosa, Cal., a barrel of Jeffrey pine oleoresin was collected during the summer of 1915, in the collection of which special care was taken not to allow any admixture of oleoresin from other species. Leaves and cones submitted by Mr. Fryer were identified by Professor R. H. Denniston as those of *Pinus jeffreyi*. A sample of oil distilled by himself was also sent for examination.

Acid and Saponification Values of Oleoresin.—The acid and saponification values of the oleoresin collected in 1915 by Fryer were determined according to the directions of the U. S. P. (eighth revision) for Acid Number of Resins (p. 535) and Saponification Value of Fats and Oils (p. 535). Duplicate determinations were made. The following results were obtained:

Expt.	Acid value.	Sap. value.
I.....	140.0	166.0
II.....	140.5	166.5

Preliminary Distillation.—500 Gm. of the oleoresin, as received, were subjected to ordinary steam distillation in a glass flask, the steam being generated in a tin can. This yielded 43 Gm. or 8.6 percent of oil which had a specific gravity of 0.697 at 20°.

Another 500 Gm. of oleoresin were saponified in five separate portions with a

* Read in abstract before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

¹ Berichte, 13, 1649.

² Pharm. Rev., 22, 413.

³ J. Am. Chem. Soc., 23, 162.

⁴ Unpublished results in the possession of E. K.

⁵ "An Examination of the Oleoresins of Some Western Pines," Bull. 119, of the Forest Service, U. S. Dept. of Agr., 1913.

slight excess of sodium hydroxide, the saponification value of the oleoresin having previously been determined as 166.0 and 166.5, respectively. The amounts and percentage yields are herewith tabulated.

Expt.	Amt. of oleoresin.	Amt. of oil.	Percentage of oil.
1.....	112 Gm.	9.9 Gm.	8.9 percent
2.....	115 Gm.	10.1 Gm.	8.8 percent
3.....	125 Gm.	11.5 Gm.	9.2 percent
4.....	116 Gm.	10.3 Gm.	8.9 percent
5.....	105 Gm.	9.3 Gm.	8.9 percent
Total.....	573 Gm.	51.1 Gm.	8.92 percent (Average)

Hence it becomes apparent that the percentage yield of oil can be increased but little by saponification of the resin acid previous to the steam distillation.

The only reference to the yield of heptane in the oleoresin of Jeffrey pine is found in the article of Blasdale, previously referred to, who obtained "about three percent" from material "collected at Lake Tahoe from stumps of recently cut trees."¹ The larger yield recorded above is unquestionably due to the fact that the oleoresin collected by Mr. Fryer was obtained by the boxing method whereas that distilled by Blasdale had been exposed in such a manner that much of the heptane had evaporated. Hence the percentage of heptane agrees fairly well with that obtained from the oleoresin of Digger's pine.

Distillation of Oleoresin.—The bulk of the oleoresin was then subjected to steam distillation in the 60 liter Lentz still of the laboratory, about one-eighth being taken as a charge. This task was kindly performed by Professor E. R. Miller. Of the careful manner in which the distillation was conducted he states:

"In any given distillation the greater part of the oil, probably 80-90 percent, was driven over in half an hour, but in every case the distillation was continued at least five hours and in some cases as long as eight hours, in order to obtain as much as possible of the higher boiling oil. Even in the case of the longest period of distillation small amounts of oil were still obtained during the last hour."

A total of 21.95 liters of oil was thus obtained, the specific gravities of the several distillates determined at 20° being herewith recorded.

1.....	0.6963	5.....	0.6976
2.....	0.6963	6.....	0.6976
3.....	0.6976	7.....	0.6976
4.....	0.6974	8.....	0.6976

Cohobation of the Aqueous Distillate.—"In separating the oil from the resin about 70 gallons of aqueous distillate were obtained. With the exception of 8 to 10 gallons which were lost, this distillate was distilled by means of the steam-jacket until a little more than one-fourth of it had passed over. The portion in the still was rejected. The distillate thus obtained was in like manner distilled, recovering about one-third of it and rejecting the remainder. Finally, the distillate was cohobated, the process having been continued until about one-half (2½ gal.) of the distillate had passed over. In all these distillations small quantities of oil were obtained, the total yield of oil recovered being 92 Gm. The color of the oil was decidedly brownish yellow."

Fractionation of the Oil.—"After reserving about two ounces of each sample

¹ Comp. also Gildemeister, "Die aeth. Oele," Bd. II, p. 100.

(the eight portions) the remainder of the mixed oil (about 21 $\frac{1}{2}$ liters) was fractionated with steam. Twenty fractions of one liter each were obtained. All these volatilized very rapidly. The first nineteen were colorless; the twentieth had only a trace of color. The twenty-first fraction measured 500 Cc., fraction No. 22, 110 Cc. and fraction No. 23, 22 Cc. Fraction No. 21 had a slight yellowish color, fraction No. 22 was very noticeably colored and fraction No. 23 was yellow with a tinge of green."

The specific gravity of these fractions was taken at 20° with a Mohr-Westphal balance and the results are herewith tabulated:

Fraction.	d_{20}° .	Fraction.	d_{20}° .
1.....	0.6855	12.....	0.6860
2.....	0.6865	13.....	0.6875
3.....	0.6865	14.....	0.6985
4.....	0.6865	15.....	0.6879
5.....	0.6864	16.....	0.6879
6.....	0.6864	17.....	0.6888
7.....	0.6865	18.....	0.6896
8.....	0.6865	19.....	0.6980
9.....	0.6870	20.....	0.782
10.....	0.6870	21.....	0.863
11.....	0.6860	22.....	0.9014

The constancy of the density of fractions No. 1 to 19 certainly speaks not only for the uniformity in composition, but also speaks well for the absence of terpenes, the absence of which in turn reveals the absence of oleoresins from terpene-producing pines. Whether there is any probability of admixture of oleoresin from *Pinus sabiniana* does not become apparent from these data.

COHOBATION OF AQUEOUS DISTILLATE OBTAINED BY FRACTIONATION OF THE OIL.

Inasmuch as steam was used in the fractionation of the oil, the aqueous distillate might be assumed to have retained at least a part of the more water-soluble constituents of the oil. The amount of aqueous distillate being about 38 liters and that of the fractionated oil 21 liters, the ratio of water to heptane is roughly 2 : 1.

These 10 gallons were cohobated twice, yielding all told 12 g. of oil.

NOTE.—The heptane material thus obtained will be used in part for the revision of the physical constants of this hydrocarbon. The percentage of higher boiling non-heptane constituents appears to be larger than in the case of the oil from the Digger's pine. That aldehydes or ketones are present is indicated by the formation of a solid sodium acid addition product. The regenerated aldehyde or ketone yields a crystalline condensation product with *p*-nitrophenyl hydrazine. The presence of esters is also indicated by the saponification values of certain fractions. Optically active substances are also present in these higher fractions. A joint report of these oxygenated constituents together with those found in the Digger's pine oil will be made later.—E. K.

SECTION ON PRACTICAL PHARMACY AND DISPENSING, AMERICAN PHARMACEUTICAL ASSOCIATION

DIACETYLMORPHINE U. S. P. AND ITS HYDROCHLORIDE.*

BY HUGO H. SCHAEFER, PH.D.

Two alkaloidal preparations newly admitted to the Ninth Revision of the Pharmacopoeia are diacetylmorphine alkaloid and its hydrochloride. Undoubtedly both will receive considerable attention from the pharmacist and chemist because of their being newly admitted to the Pharmacopoeia and because of the rather variable composition and behavior of those samples found upon the market. In the following paper I have endeavored not only to point out some of these variations but also to cite the results of a number of experiments, etc., made upon these two products.

Much has been written and said about the melting point of diacetylmorphine alkaloid and especially of diacetylmorphine hydrochloride. The Pharmacopoeia states that the alkaloid melts between 171.5° and 173.5° C. Four samples of this product made by different manufacturers and obtained in the open market were tested and found to melt sharply and distinctly at 172° C. Therefore, it would seem that the official specification, that it shall melt between 171.5° and 173.5° C. is quite liberal.

The determination of the melting point of the hydrochloride, however, offers a number of difficulties. The Pharmacopoeia states that it "melts at about 230° C. with decomposition." This means much or little. I have found it difficult to obtain any definite melting point with this salt, due to the fact that it slowly decomposes when subjected to temperatures above 200° C. In order to show the variations which occur in determining this melting point the following experiments were made, all upon portions of the same sample of diacetylmorphine hydrochloride:

Experiment A. A melting point determination was made in the ordinary way in such a manner, however, that the rise in temperature was at the rate of $4\frac{1}{2}^{\circ}$ C. during each minute of heating. The salt began to acquire a darker color at 190° C., first yellow then brown, and melted at 225° C. The total time of heating amounted to almost forty-five minutes.

Experiment B. Upon another portion of the same sample of diacetylmorphine hydrochloride, a melting point determination was made, in such a way, however, that the rise in temperature progressed at the rate of 6.5° C. during each minute of heating. The substance began to darken at about 200° C. and melted at 228° C. The total time of heating amounted to about thirty minutes.

Experiment C. Upon a third portion of the same sample a melting point determination was made in such a way that the rise in temperature was at the rate of 10° C. for each minute of heating. The substance darkened at 200° C. and melted at 232° C. The total time of heating in this case amounted to about twenty minutes.

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Atlantic City meeting, 1916.

Experiment D. In a similar manner a fourth portion of the same sample was subjected to a melting point determination in such a way, however, that the rise in temperature was at the rate of 20° C. for each minute of heating. The salt began to darken at about 210° C. and melted at 235° C. The total time of heating in this case amounted to ten minutes.

The foregoing four experiments were repeated with another firm's product and gave similar results.

The conclusion drawn from these variations in the melting point is that diacetylmorphine hydrochloride slowly decomposes and liquefies at a temperature which varies according to the length of time during which it is exposed to this temperature. Therefore, a fifth experiment was made upon another portion of the sample of diacetylmorphine hydrochloride strictly in accordance with directions of the Ninth Revision of the Pharmacopoeia, for determining melting points. The method is rather elaborate probably too much so for the average pharmacist. It calls for a stirring device, a standard thermometer, an auxiliary thermometer for emergent stem corrections on the main thermometer, together with other rather complicated directions and calculations. Upon closely following out all these directions, repeated determinations upon portions of the same sample yielded similar results. However, no two samples of different manufacturers gave the same melting point. The four samples varied between 228 and 234° C.

The Pharmacopoeia does not mention any allowable loss in weight upon heating in a drying oven. However, the formula of the alkaloid calls for an anhydrous product, and that of the hydrochloride calls for the presence of one molecule of water which is the equivalent of 4.88 percent. The four samples of diacetylmorphine alkaloid were practically anhydrous. Those of the hydrochloride varied from 3.9 to 4.71 percent loss of weight after carefully drying at 60° C. in an oven.

Ash determinations were made on all samples both alkaloid and hydrochloride. In order to obtain a weighable residue two grammes of each sample were used. The results were as follows:

Hydrochloride,		Alkaloid	
1.....	0.080 percent residue	1.....	0.031 percent residue
2.....	0.042 percent residue	2.....	0.036 percent residue
3.....	0.051 percent residue	3.....	0.063 percent residue
4.....	0.072 percent residue	4.....	0.066 percent residue

The Pharmacopoeia specifies that no weighable ash remains on incinerating 0.5 Gm. of the substance. All samples, therefore, would pass their requirement.

All samples both alkaloid and hydrochloride withstood the tests for presence of "other alkaloids" and ammonium salts.

One sample of the hydrochloride turned slightly dark when dissolved in concentrated sulphuric acid, in accordance with the official requirements, thereby showing the presence of small quantities of "readily carbonizable organic impurities."

The results of the tests for presence of morphine varied somewhat with the different samples used. The test in the Pharmacopoeia reads:

"Dissolve about 0.05 Gm. of the potassium ferricyanide in 10 mls of distilled water, add one drop of ferric chloride T. S. and then 1 mil of an alcoholic solution of Diacetylmorphine (1 in 100); no greenish or blue color is produced at once." Of the four samples of alkaloid and four of hydrochloride

ride tested, one sample of the hydrochloride turned distinctly greenish at the expiration of about five seconds. It does not seem quite clear whether such a sample would pass the requirement of not turning greenish or blue at once. The other samples withstood the test for periods of time varying from 15 seconds to 2 minutes.

Conclusion: The foregoing comparisons prove that the requirements of the Pharmacopoeia regarding the purity of diacetylmorphine alkaloid and hydrochloride are by no means too severe and will be easily met by the manufacturers. All the samples most commonly found on the market to-day while showing some variations are of sufficient purity to pass the official tests.

COLUMBIA UNIVERSITY,
COLLEGE OF PHARMACY.

SODIUM CACODYLATE BETTER THAN SALVARSAN.*

It were a good thing if physicians could be made to understand that sodium cacodylate (dimethyl arsenate) will do all that salvarsan and neo-salvarsan can do, while being much safer to handle. However, several years of experience with this remedy, administered intravenously in a wide variety of conditions (and at first, it must be admitted, with many failures), have convinced me that our current dosage is too small. For some time my practice has been never to give less than 10-grain doses, and often even as high as 30 grains, repeating the dose in four days. Those cases that failed to respond to the 10-grain dose have cleared up quickly under the 30-grain dose, and I have never seen any constitutional arsenic symptoms arise from this large dosage.

In treating syphilitic lesions with cacodylates, we should employ mercury either before or conjointly with the cacodylates, otherwise we are likely to produce that spirochete-fixation often produced by the salvarsan preparations, and known as the arsenic-fast condition. In tertiary lesions, iodine should be prescribed in conjunction, inasmuch as iodine is a liberator of encysted spirochetes and the cacodylate an eliminator by way of the lymph and blood streams.

The cacodylates are valuable remedies for many pathologic conditions, including skin diseases, as well as for infections, while the tonic and alterative properties of arsenic are well known.

We should administer more remedies by the intravenous route. The administration of thousands of injections during the course of several years gives me the assurance that this is a rational and safe procedure to follow.

W. N. Fowler.

KALAMAZOO, MICH.

**Clinical Medicine*, January 1917.

MERCURIC SALICYLATE AND ITS PREPARATIONS AS APPLIED IN PHARMACY.*

BY J. LEON LASCOFF.

In presenting this paper, my object is not to discuss the therapeutics of mercury and its salts, but rather the modes of compounding or preparing prescriptions as presented to us by the medical profession. It is expected of us that the finished product be correct, convenient for use, elegant in appearance, and by all means safe for administration.

A few words of history may be of interest. Dr. H. G. Klotz (Fifty-ninth Annual Meeting of the American Medical Association, June 1908) in his paper on Mercurial Treatment, states that the use of mercury as a remedy was known in the twelfth century, and introduced by an Arabian physician. With the appearance of syphilis in civilized Europe, in 1497, an Italian physician, Caspardo Torella, recommended the use of mercurial ointment for the skin lesion of this disease. During these early periods, the use of mercury was restricted to external use.

About 1535, Pierre André Mathiole initiated the internal use of mercury in the form of the red oxide; later, Van Swieten's Solution, a solution of mercuric chloride, was much used. The protoiodide, first recommended by Biett, was widely adopted at the beginning of the nineteenth century. About the same period, the intramuscular injection of mercury came into vogue and has become firmly established. Dr. Klotz advocated the use of mercuric salicylate (insoluble injections). Dr. Joseph Zeisler of Chicago, remarked the following in discussing the paper of Dr. Klotz: "I began the use of injections of mercuric salicylate about eight months ago; since then, after having given several hundred of these injections, I have been delighted with them."

In *Schmidt's Jahrbücher* of 1891, we find that Szadek, following the teachings of Silva Aronjo, recommended the use of mercuric salicylate. Szadek recommended the following formula:

Mercuric Salicylate.....	1 Gm.
Mucilage of Acacia.....	5 mls
Distilled Water.....	20 mls

J. L. Wollheim in his paper on Painless Mercury Injections (*New York Medical Journal*, July 27, 1912), S. Pollitzer (*N. Y. State Journal of Medicine*, April 1916) and Harlow Brooks (same Journal) have recommended and summarized the results of their experiences with mercuric salicylate.

Wollheim recommends the following suspension of mercuric salicylate:

Suspension VII represents the following formula:

Quinine and Urea Hydrochloride.....	2.0 Gm.
Distilled Water.....	2.0 mls
Wool Fat, anhydrous.....	12.0 Gm.
Mercuric Salicylate.....	10.0 Gm.
Olive Oil or Liquid Petrolatum to make.....	100.0 mls

This suspension is one with which most of his injections have been given and is an elegant preparation from a pharmaceutical standpoint.

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Atlantic City meeting, 1916.

Dr. S. Pollitzer recommends intramuscular injection above all modes of administration as being most efficient and convenient, the preparations to be used being insoluble salts. The customary 10 percent suspension requires too large a volume of the menstruum and therefore he uses $33\frac{1}{3}$ percent suspension. He also uses olive oil as a menstruum.

All of these suspensions must be prepared aseptically, as far as possible. The bottles, corks, and all glassware should be previously boiled. There is now in the N. F. IV a chapter on sterilization.

Mercuric salicylate is a white, odorless, tasteless powder containing about 59 percent of mercury. It is insoluble in water and alcohol. Great care should be exercised in keeping it. It is prescribed for external use, internally and by intramuscular injections.

There are a good many preparations on the market of mercuric salicylate. One of the best known and most used is "Enesol," Mercuric Salicylarsenate, which is described as an amorphous white salt, holding 38.46 percent of Hg and 14.4 percent As. It is soluble in 25 parts of water. Used in hypodermic injections, 1-2 Cc. of a 3 percent solution.

FORMULAS.

1. Mercuric Salicylate..... 1.0 Gm.
Mucilage of Acacia..... 0.5 mil
Distilled Water..... 20.0 mils

The mercuric salicylate is triturated with the mucilage, and the water is added.

2. Mercuric Salicylate..... 10.0 Gm.
Olive Oil to make..... 30.0 mils
For Injection.

As this preparation is for hypodermic use, sterilization is absolutely necessary.

3. Wollheim VII
Quinine and Urea Hydrochloride..... 2.0 Gm.
Distilled Water..... 2.0 mils
Wool Fat..... 12.0 Gm.
Mercuric Salicylate..... 10.0 Gm.
Liquid Petrolatum to make. 100.0 mils

The quinine and urea hydrochloride is dissolved in the distilled water. The mercuric salicylate is triturated with the anhydrous wool fat. Add the former solution to the triturate and then add gradually the liquid petrolatum.

No. IX is the same as No. VII but has olive oil.

In preparing the ampuls, the ordinary suspension is by no means advisable. It could be prepared in an ointment base like cacao butter. The objection to this, I find, is that it must be warmed before transferring to the syringe. However, when the suspension is made with the addition of lanolin or a few drops of water, (as per Formula 3) a uniform and equal subdivision of doses is found. Each ampul will represent the desired strength.

4. Pills (McDonald)
Mercuric Salicylate..... 0.6 Gm.
Extract of Gentian..... 2.0 Gm.
Make into a pill mass and divide into 30 pills.

In preparing this pill mass, care should be taken to have the mercuric salicylate uniformly subdivided, the mass soft, and the resulting pill as small as possible.

5. Tablets
Mercuric Salicylate..... 1.0 Gm.
Sugar of Milk—sufficient
Make into 50 tablets

The mercuric salicylate should be thoroughly triturated with the sugar of milk. Avoid the use of metallic utensils.

6. Ointment
Mercuric Salicylate..... 3.0 Gm.
Petrolatum and Wool Fat,
each to make..... 30.0 Gm.

This ointment should be made in a glass mortar. Triturate the mercuric salicylate thoroughly before adding the base.

7. Ampuls
Mercuric Salicylate..... 10 percent
Quinine and Urea Hydrochloride..... 0.5 percent
Liquid Petrolatum 1.0 mil

By far the most convenient and safest method of dispensing, and mercury administration, is in the ampul. The preparations for hypodermic use should be sterilized, the dosage should be exact and there should be no chance for contamination or infection between the container and the hypodermic syringe. All of these requirements are fully satisfied by the ampul. In addition the ampul meets the physician's demand for a convenient container and at the same time the preparations are protected from deterioration.

The ampul, however, should contain a preparation of uniform consistency and be well emulsified and minutely exact as to the dosage. The fresh preparation of such an ampul by the pharmacist will readily appeal to physicians. As stated in my former paper, these ampuls are easily filled and can be produced at a very low cost by pharmacists and in any strength desired by physicians.

HISTORY OF AMERICAN SALICYLIC ACID INDUSTRY SHOWS HARD COMPETITIVE BATTLE.

Salicylic acid is a basic product used in making a number of chemicals for pharmaceutical purposes.

For 20 years American manufacturers of this product fought the German market, which fixed prices on this acid in every country of the world, except the United States, it is said. Prior to 1893 practically all the salicylic acid consumed in this country was supplied by the Germans, who kept the price up to \$1.25 a pound. Then came the erection of a factory at St. Louis, which cut the price in half, and the German competitors promptly dropped to 56 cents.

By 1903 the German control of the American market was broken, and the product was sold around 30 cents a pound. Later the American manufacturers were forced to extend themselves, it is contended, to meet competition. The Germans, it is told, tried to get an American producer to withdraw competition if the American concern would pay a yearly indemnity of 10,000 francs, but the offer was promptly declined.

The European war has tied up exports from Germany.

SECTION ON EDUCATION AND LEGISLATION, AMERICAN PHARMACEUTICAL ASSOCIATION

HOW TO STUDY.*

BY FREDERICK J. WULLING.

Mental control is the underlying basis of concentration and concentration is the ability to pay sustained attention to what one hears or reads or studies. We all possess the faculty of concentration, but in only few persons is it well developed. Its development should be begun early in childhood. Many high-school graduates and others of equal or greater maturity have come to my notice who lack to a deplorable degree the capacity of attention. They lack the power to focus attention, to permit their minds to become impressed with what is said to them. No curriculum is adequate that does not necessitate the development of the power of concentration by the enforcement of sustained and intensive attention. I say "enforcement" because experience has taught me that some sort of compulsion is necessary with the average child and older students.

Patanjali is quoted as giving four main stages in the development of the mind: "First, the butterfly mind, constantly flitting from one thing to another; second, the confused mind full of hasty impulses, illy considered thought and immature ideas; third, the mind dominated by a fixed idea, concentrated; fourth, the fixed idea dominated by the man, or the mind under perfect control of the Ego."

This classification, made many centuries ago, holds good to-day; I know of no better modern one. Most students, indeed most men and women, are in the first and second stages; a few are in the third and only occasionally does one find any member of the fourth. Many influences of to-day tend to keep in or put people back into the first and second stages. Witness the schedule in most of the public schools in which subjects are changed every fifteen, thirty, or at best forty minutes; the bulky newspapers of which most of us can read only the headlines; the tremendous increase in the short story literature at the expense of the old and new classics; the movies; etc. While none of these are wholly bad in themselves, in their combined and increasing totality they tend most disastrously away from that concentration of mind which is so essential for individual and national success and growth. Add to this the abstractions, interruptions and diversions of a great part of our average daily life and you have the conditions that create and maintain the butterfly mind, the superficial, shallow, unconstructive, uncreative, leaning, confused mind that is a detriment to the possessor and a distinct liability to the community because it is so numerous and keeps down the average of intelligence and in that measure retards national and universal, to say nothing of the respective individual, development.

In the two higher stages probably only very few, if any, can control and direct all their thoughts, but happily some by persistent effort and will-power have trained their minds to create and control their thought and to direct or focus it

* Read before joint session of Section on Education and Legislation, American Conference of Pharmaceutical Faculties and National Association of Boards of Pharmacy.

according to the wisdom they have. By this power they also, naturally, restrain or regulate, in short, govern their actions and their emotions. They have a *dominating, persistent, constructive will-power*. This brings me to the point of my remarks, namely, that the concentration of the mind upon a given purpose, which is so necessary in the prosecution of study, is based upon a determined, resolute, relentless will-power and sticktoitiveness. I would despair, if I were not convinced that every normal individual can with more or less success develop will-power. This conviction grows out of the fact that I have often had the privilege of helping individuals develop this power. There are those, first, who recognize the existence of will-power: latent in some, sluggish in others and fairly well developed in still others; second, those who do not, or who are hopelessly and helplessly indifferent as to its existence. Because I must make my time and energy bear the greatest fruit possible I have never devoted any of them to the latter class. They constitute a field for the most helpful kind of home missionary work for which unfortunately I have no time. Of the former class nearly everyone who came under my direction succeeded at least to a point enabling him or her to graduate and later to pass the board.

You ask what method do I employ? Mostly heart to heart talks with the individuals in which I call attention to the latent abilities in all of us and how their development is dependent upon personal, individual effort and persistent work backed up by the will to do and to accomplish. It is a regrettable fact that most young people nowadays are more anxious to succeed financially than mentally or spiritually, so I dwell on the concentration of mind and will-power as indispensable to the success of the business as well as the professional activity of pharmacists. This I do in the hope that when they have developed some will-power they will also have gained some wisdom to direct their will-power to other or additional ends. I emphasize the fact that the ability to concentrate can easily be developed by giving close attention and the best in us to every little task or activity as well as to the larger, for the little tasks make up the bulk of our lives and by doing them well we more easily create the permanent habit of doing all things well. I also speak of the fact that nature takes care of our physical development, but that it is our individual task and duty and privilege to stimulate our mental growth and that our mental development determines largely our success in life and normally our moral and spiritual evolution, for it is true that with mental increase comes wisdom which prompts a more universal augmentation of our concepts. I mention also the necessity of conserving our energies to get affirmative results from them rather than fritter them away on unimportant and frivolous activities. One of my arguments that usually brings an awakening to the mind of an indifferent student is the statement that the difference between the person who concentrates his whole energy and attention upon his task, be it little or great, and the one who does things indifferently and carelessly is the difference between a systematic, conscious development and heedless, easy drifting with the current; the difference between controlling and being controlled; the difference between the master and the servant.

I also make it clear to the student that if he has the idea that his teachers and others have done all the thinking that is necessary and that he need, therefore, merely memorize statements or quotations, he must abandon it forthwith and

instead decide and learn to think for himself. The concentration upon his work must include sequential, related thinking and reasoning. The student must learn that his mind is an instrument given him to use and develop under the dominance of his wisely directed will. I point out that thinking is sequential and should be based upon reasoning; that each step in thinking a problem out is based upon and made easier by the preceding one and that once this power of building up original thought in his own mind and of feeding consistently his imagination is developed, he will have acquired the power of concentrated attention and application that will make the solution of each subsequent problem progressively easier. I try to be convincing and to obtain the person's good-will and his promise to let me help him and continue my interest in him. I soon learn whether the person in question has the ability to carry out my suggestions or advice. Quite frequently I find a student who is self-willed and obstinate but who qualifies under compulsion. I am an advocate of judicious and wise compulsion and believe it was a serious mistake to eliminate corporal punishment from the schools. While I was an advocate of the elimination at the time, I would now restore it and regulate and control it. I see continually the result of a lack of sufficient compulsion in our public schools in some of the students who come to us and to other colleges. Indeed, many admit that they did not work at school because they did not have to. Some, realizing their deficiencies and handicaps, are incensed at their teachers and parents for not having made them study harder. The compulsion I use consists in assigning certain appropriate home study to be done within a specified time or within a time that requires close application to the work. This work is made a requirement. It is graded and made to fit individual cases, always with the end in view of increasing the student's capacity for concentration and continuity of application and work. To do this and make this requirement is, I believe, a legitimate function of a dean. Of course, this sort of thing ought not to be necessary and would not be if the common and high schools, and parents had done their full duties but the necessity exists and I administer upon it as best I can. It must be recognized that many, probably the majority of students, are mentally and physically indolent if not actually lazy; some are merely slow. But it must also be recognized that they are not wholly the product of their own volition; their environment and especially their lack of training are responsible. The great majority are under insufficient discipline or under none at all and the blame rests upon the parents or those in *loco parentis* and secondarily upon those responsible for our school systems.

In addition to this individual work with those who need it I do some work with the classes along similar lines, including several lectures on psychology, ethics, logic, philosophy, etc., but of this I will speak separately some other time.

Now you may have gained the impression that I am a hard taskmaster, but the fact is nevertheless that I know of none of my students whose good-will and more I have not.

UNIVERSITY OF MINNESOTA,
COLLEGE OF PHARMACY,
MINNEAPOLIS.

ARE PRIVATELY OWNED SCHOOLS AND COLLEGES OF PHARMACY
OBJECTIONABLE AND NOT LIKELY TO PRODUCE THE
BEST RESULTS?*

BY EDWARD SPEASE.

The above question is one that has interested the writer not a little during the past few years. When the chairman, Mr. Freericks, of the Section on Education and Legislation asked me to submit a paper on one of twenty subjects, the above subject was chosen in order that the writer might ascertain what the opinions of others are upon it.

The question asked and which may be answered in this paper is not one of past tense but is clearly one of the present day. It is certain that the founders of pharmacy, medical and dental colleges in the past have not acted from selfish motives alone; surely some of these motives, or better the major portion of them, have been altruistic and for the advancement of the profession.

Is it not true that the major portion of institutions of learning at one time were privately owned? It certainly is true that such has been the case in regard to professional schools. Public institutions of learning have had to await overtures from the professions before they would include professional curricula, because the leaders in the professions have been interested financially in the privately owned schools. Medical and dental colleges have been entering the large universities quite rapidly in the past decade and so have quite a few pharmacy schools. Has this movement been a backward or a forward one?

One little thought occurs at this point. If graduating to-day, would you prefer a degree from Harvard or Yale to one from a college owned by John Jones? Suppose the said John Jones is recognized as the very topmost man in his profession—the success of his college and its reputation depends upon him and his name. When he dies, a leader of his ability may or may not appear. From which school, then, is the degree worth the more? Would you rather own stock in a small railroad paying high dividends to-day and owned solely by one man than stock in the Pennsylvania System? Which is the better permanent investment? The above questions of course are based upon the fact that the public does take cognizance of the school from which your degree is obtained.

Some of our university authorities have taken the stand that pharmacy is a trade and not a profession and that they do not wish to include with themselves trade schools. From the character of some drug stores to-day, they have abundant grounds for such views. Is not this state of affairs due largely to lack of proper education on the part of the pharmacist?

The physician has rapidly increased the standards of preliminary education and the pharmacist has not kept pace with him. Where is the pharmacy school that requires an A.B. degree for matriculation? How many require the minimum medical demands—two years of approved college work? We are not, however, overlooking this fact and we are tightening up as rapidly as we can, in fact, as rapidly as our large rank and file of non-college men will let us. So long as our schools

* Read before joint session of Section on Education and Legislation, American Conference of Pharmaceutical Faculties and National Association of Boards of Pharmacy.

accept less than high school graduates and our state boards accept the so-called self-made men without college training, just so long must we rank below the physician. This is not a reflection on the self-made man of twenty or forty years ago, times were different then, but it is a reflection upon the lack of education of the profession as a whole in that they have been unable to cope with the times.

How has the medical profession prevented the uprooting of their practice by medical cults, home-medication-patented-fakes, and what not? They have done so by legislation. They can not stem the tide of such growths but can inhibit their activity by legislation and prevent serious inroads upon the educated practitioner. Have we been sufficiently far sighted (educated) to secure proper legislation to prevent the many and various inroads upon our profession? This could have been done if our whole rank and file really stood for better things.

The remedy for this condition is to turn out educated men. Can the privately owned school furnish this education? No, it is impossible. Many university men will be even willing to admit that in strictly pharmaceutical subjects the privately owned schools have been par excellence and indeed in many instances have excelled the university schools. But how about the subjects such as English, Mathematics, Languages, Economics and the so-called cultural subjects? Are they to be utterly ignored if we build up pharmacy? Can these be given by privately owned schools? How about the associations between pharmacy students and students in other courses—are they beneficial or harmful? Indeed this last question might even be asked concerning instructors. Have not the medical and dental professions suffered from the same thing? Do the three professions as men alone rank on a par with other college graduates? In isolated cases, yes, but as professions—do they?

The finger of scorn should not be pointed at the grand old men of our profession nor should they be criticized for the past, as they lived under different conditions then. They will be criticized if they do not join the procession of progress to-day and help to better things for pharmacy.

One other thought remains. It is impossible to furnish complete education at the least possible cost to the most people through privately owned schools, and this is really the fundamental principle of education. Tuition alone will not maintain a school properly. If a profit is made from apparatus used, materials used and lectures given, then we are piling up cost upon the student.

The university is supported by taxation, state appropriation or by endowment. It can furnish in this way more things to the student than can a privately owned school. It certainly is eminently proper that the state pay for the education of its pharmacy men, who help conserve public health, as well as for the education of real estate men and those who enter the insurance business. In case a university receives its support from endowment, this endowment should be sufficiently large so that the student may receive his education at a cost that will be at least as low as that from a university supported by taxation.

All our professional schools should either be integral parts of universities or be so affiliated with them that the student may have the benefits from the university without more cost to him than to any other university student.

We should insist that our *Materia Medica* teachers should also teach the medical students and that our pharmacy teachers should have at least courses enough among

the medical students so as to inform them of the value of the Pharmacopoeia and the National Formulary. Our medical students should be taught prescription writing by pharmacy men so that they could learn while in school that it is not merely for the sake of getting business for the druggist. Our free dispensaries and clinics should be filled with ethical preparations made by our pharmacy schools and there let the embryo doctor see them and know they are made by pharmacy men. With a few years of this, could the cheap so-called pharmaceutical house sell "just-as-goods" and "twice-as-cheaps" to a trained physician? If the pharmacist and physician gain mutual confidence in each other by this plan of early coöperation, there would then be no room for the detail man who has been taking advantage of the lack of education of both parties.

This paper is intended to invite friendly criticism, not from those who wish to make money from education, but from those who can see that lack of education or education along narrow lines only, is the disease that is undermining ethical pharmacy of to-day.

DEPARTMENT OF PHARMACY,
OHIO STATE UNIVERSITY.

MAKING EDUCATION PRACTICAL.

Agitation is now going on in certain circles designed to make education more practical. This ought not to be difficult of accomplishment. It will strike the average person that the easiest way to bring it about will be to abolish many of the fads now occupying the education school board, and to revert to the fundamentals which occupied the attention of our fathers. It will also strike the average critic that lack of application is one of the gravest evils that afflict our educational system. The average parent and the average teacher have come to believe that a pupil can skim over this and skim over that and retain it. Nothing is farther from the truth. Success in education, like success in everything else, comes from hard work. When we get back to the idea that our pupils in school like their parents out of school must work for the success they attain, we are much more likely to achieve results than we are under our present scheme of doing things.—*Peoria (Ill.) Star*.

STUDENTS MAKE A UNIVERSITY.

We have heard a good deal in the last few days about the troubles with our educational institutions. Some think they are too rich, some think that they are ruled by ignoble interests, by men who are intellectually bound, and others say we should change our system for that of Germany. All this discussion seems rather puerile. There are only two things which make a college or university—teachers and students. Any school in the world can be of the best if the student wishes it. No equipment, however large, is of any value where the student is not minded to work hard. First and last, any student gets out of college life just as much as he puts into it. The trouble is that in these days too few young men are minded to put much into their college life.—*Philadelphia Inquirer*.

SECTION ON COMMERCIAL INTERESTS, AMERICAN PHARMACEUTICAL ASSOCIATION

WHAT IS WRONG WITH THE BUSINESS END OF PHARMACY?*

BY JACOB DINER.

Whenever a subject of popular interest holds the people's attention we can always feel certain that the newspapers of the Metropolis will bring some interviews with prominent actresses, pugilists, beauty doctors and others, who have not the least idea about the subject upon which they are interviewed and are therefore best qualified to offer expert advice. We see the bachelor-girl quoted on how to bring up children; the old maid can tell you how best to hold your husband's affection; the bald man recommends his hair restorer, the twelve dollar a week clerk tells you how to conduct your business so that you may become rich in a short time, and old John D. R. can tell you just how you can live on \$1.99 a week and save money on a \$2.00 salary. It is for this reason that I do not hesitate to stand here before a collection of the most prominent and most successful pharmacists of this country and endeavor to assay just what is wrong with the business end of pharmacy.

Many men divide pharmacy into two distinct entities: the professional side and the commercial side. Those claiming to be "strictly ethical" generally refute the idea that any such thought as financial success ever enters their minds. They only live and are willing to die for the "Profession" with a capital P. Those who make no pretensions to so-called professionalism are often ashamed to admit that they make splendid use of their professional attainments to the benefit of their patrons and no less to the advantage of their own bank account. So that on one hand we have a collection of pseudo-scientists and on the other hand some rattling good business men who pretend to be ashamed of their profession. Here and there we find men who are not ashamed to make money honestly as business men and who are candid enough to admit that their knowledge of the profession has helped them to make the business successful. I refer to such men as our old war-horse Henry P. Hynson. It is he whom I first heard speak of the "Science of Commerce" and often have I thought of this classification which has since become standard and has found a home in many of our more advanced universities.

The average pharmacist is neither a business man nor a professional man. He is fooling himself while he believes he is fooling the people. Let us take up the average pharmacy and briefly analyze both its business and its scientific methods: As we approach the brilliantly illuminated corner we behold the windows beautifully displaying a half dozen empty cartons advertising somebody's Sure Cure for Sane people. The window space represents perhaps 20 percent of the rent which the proprietor of the pharmacy pays for his store. The article advertised gives him probably 5 percent gross profit. The light, heat, help, insurance, depreciation of fixtures and other overhead expenses, including rent, make the cost of doing

* Read before Section on Commercial Interest A. Ph. A., Atlantic City meeting, 1916.

business not less than 25 percent of the gross receipts. Yet here is a man giving up space, help, light, etc., for the return of 5 percent gross, and he does not even obtain any advertising value out of it for himself or his store, because the man on the next corner and the men for ten or fifteen blocks in either direction are displaying the very same article or similar articles at an equal loss.

Then we wander into the store proper. At least half the shelf-room is taken up by the display of proprietary medicines, the sale of which we know yields a tremendous profit, but to whom? Surely not to the retailer. Again he loses so that the other may gain. A philanthropist pure and simple. But the show cases, surely they will hold something on which a profit may be made, something which will help to establish him with his customers as a pharmacist worthy of their confidence. Let us see. On one case there is a liberal display of Cough Mixture recommended to cure all ills of the respiratory tract from asthma to tuberculosis. Of course the pharmacist has compounded this himself and so is sure to make all the profit that can be made out of it. But let me think. Did I not see that very same preparation in the store down-street and in the store up-street? I sure did. The only difference is that one was labeled: "Made expressly for Jones," and this is "Made expressly for Smith." Each one of these, Jones and Smith, paid a liberal price for the time and labor it took to compound, bottle and label that Cough Mixture. Each one of them recommends "his own" as superior to any other preparation, the composition of which is unknown to him, notwithstanding the fact that it is liberally displayed on the shelves. Jones and Smith are as ignorant of the composition of "his own cough mixture" as he is of *Snookum's Sure Salve for Sore Sides*. And so they go on fooling themselves while they think they are fooling the people.

While we are looking over the show cases in comes a salesman. He represents the wholesale house from which we buy all our goods. Out comes the want book and we order $1/12$ dozen of this, 3 gross of that, and 1 ounce of something else. There is no attempt to organize the buying end. Could we more profitably buy 1 dozen of this or 10 pounds of that and by so doing save an appreciable amount? Do we feel from reading the market reports, that it would be advisable to lay in our fall stock or our winter supply of this, that, or the other thing? Inasmuch as we used 2 barrels of citric acid last winter, bought in 5-pound lots, when we needed it and paying all sorts of prices, would it not be advantageous to make our contract for it now at the prevailing lower prices? Or inasmuch as we are now dealing with war prices, would it not be better business to buy from hand to mouth only and not order a whole barrel at one time, as we generally do? Those are the little things that we do not think about because, what's the use? We are strictly professional and ethical. But are we? Let us see. Who made up that last lot of Seidlitz powders? O well, we bought that because it is such a nuisance to put them up. But of course we make up our paregoric. Do we? Ask the wholesaler. Neither do we make up our tinctures nor our syrups. Our ointments can be bought much better (?) and much cheaper (?). And anyway, we have no time to waste on these things, we are too busy. Too busy doing what? Cussing out the drug business of course.

DISCUSSION.

ROBERT P. FISCHER: I think that Dr. Diner gave a good picture of some drug stores; but I hope that when he said that it was a picture of the average drug store, he was mistaken.

I have confidence enough in the retailer to believe that it does not represent the average store. The young men who are getting into pharmacy are doing so with a much clearer conception of the needs of it. When they watch the proprietor of the store, they see his shortcomings. I have talked to the clerks in a good many old-time stores—stores that have been so long in the place as to have become historical, and in which things were being done in the same way in 1916 as they had been done in 1816; and these young fellows knew just where the trouble was.

Now we have on the one side the people who are advocating scientific management, long accounting systems, etc.; and on the other hand, we have men who care nothing for any business system at all. We are going to strike a happy medium between these two soon, I believe. A prominent man in New York said to me that he thought that accounting was a good thing; but we must remember that he is a retailer with enough business to support two clerks and to keep them pretty busy. Such people do not have time for a lot of book-keeping. They want a short system of doing things.

In our business, we cannot adopt a complicated system, or get along without any at all, so we must strike a happy medium. This is being done in our schools of pharmacy, and the principles taught there are beginning to bear fruit. The younger men are going to adjust themselves to the conditions in some way, so as to make the best of the situation. I have every confidence in the future of the business side of pharmacy.

OTTO RAUBENHEIMER: There is one thing in the paper that struck me very forcibly. Dr. Diner spoke of preparations "Made expressly for" the druggist. This is one of the benefits that we have derived from the Pure Food and Drug Law. Before that law was enacted, practically every pharmacist had these preparations made for him by a manufacturing concern, and had a label put on them stating that they had been made by himself. Now has the pharmacist taken advantage of the fact, that there is something that he can do and make money by it, as well as bring out his own individuality? I do not mean putting up cures for tuberculosis. That is out of the question; but he could put up simple household remedies, and state that they had been made by himself. Let him do this; and if the preparation is any good at all, he will find that these will help in establishing his reputation as a pharmacist.

INTEREST IN THE EMPLOYEE.

The days are passing when the employee was regarded as a mere machine from which to get as much work as possible, without regard to any human reciprocity or interest.

The profit of coöperation between employee and employer is strongly emphasized by the huge earnings of a certain great automobile factory, which were due to the fact that the men and women who worked for it loved it. It treated them fairly, man to man, as friends as well as employees. And they responded.

Employers are finding out that faithful, intelligent employees are the best asset a business can have, and that such employees are not to be secured except by the reciprocal interest and faithfulness of the employer. So it is that the great and far-seeing businesses, among which are the banks, are laying plans to establish closer relations with the men and women in their service.

This is one of the most satisfactory developments of the times. All of us should profit by it, and should do our best to see that the idea gets full publicity. "It will pay your employees, but it will pay you even better," is the argument. Put on this basis, as being good business for all concerned, the idea will appeal with force to all classes. It is time that the discontented, ill-treated and underpaid employees should go, and the employer is beginning to see this for himself.

But don't forget that some of the reciprocating must be done by the employees.—*Bulletin*.

AN APPEAL TO THE RETAIL DRUGGIST TO TAKE A GREATER
INTEREST IN THE MANUFACTURE OF U. S. P. AND N. F.
PREPARATIONS.*

BY ZEB W. RIKE.

This is written from the standpoint of the retail druggist in the smaller towns, but I am sure conditions which prevail here, in a measure, correspond to those in the larger stores in the cities. In this day of commercialized pharmacy one is necessarily forced to keep pretty well stocked with pharmaceuticals of the various manufacturing houses, but with a little extra effort, judicious advertising and sampling among our local physicians, this condition can be largely overcome by the manufacture of many U. S. P. and N. F. preparations which are prescribed every day, and which can be very easily made, even in a drug store where conditions are such that there is no laboratory in connection or where the druggist has no great amount of equipment for this work.

We often hear the cry from the old-time druggist that, times have changed so radically there is not so much money in the drug business as twenty years ago. That, perhaps, from their viewpoint, is in a measure true. But should we as a profession be content to sit idly by and listen to the croakings of these pessimists, and at the same time allow the large manufacturing concerns to reap the profits which are rightly ours, or strive to go forward putting our best efforts into action in an endeavor to make these things which should be made in our establishments?

I have found in my experience that many of these preparations which are prescribed daily and which are as staple as flour, can not only be made more cheaply than the manufacturer will sell them, but in many cases they are more elegant preparations. I know druggists who prefer to purchase from a wholesaler such simple things as aromatic elixir rather than to take the time to make it. Think of such a sad state of affairs. For the advancement of the profession of pharmacy a person can not afford to let these things pass. From my way of thinking the druggist who says he can buy the above mentioned elixir, and many other preparations, for that matter, as cheaply as he can make them, and also that he does not have the time for doing so, is in the same deplorable condition as the farmer who would contend, it would be better financially for him to allow the other fellow to raise his cotton, feedstuff, etc.

I do not charge this class of druggists with ignorance, but to be as lenient as possible they are woefully indifferent to the opportunities presented them every day. It is an established fact that the lines of least resistance are more easily followed, and when we once get in a rut it is pretty difficult to overcome the compelling desire to remain in it. The chief arguments these men use against making these preparations are the element of time, inability to successfully and correctly make them, and the lack of coöperation on the part of the physician who prefers to have some old established manufacturing concern compound them.

First, take the element of time. In the average small town drug store time

* Read before Section on Commercial Interest, A. Ph. A., Atlantic City meeting, 1916.

very frequently hangs very heavily upon us—that is, those who do not desire to sit all day and discuss the faults of our government, etc.—and we could not only add financially to our business, but at the same time store up further information to our little stock of pharmaceutical knowledge. Not infrequently the clerk and proprietor both have ample time to delve into the Pharmacopoeia and the National Formulary and work up these excellent formulae. Then again the proprietor is often heard to make the remark that when his clerk's time is taken into consideration along with the price of the ingredients entering into these preparations, the finished products will cost as much as the jobber sells them for. And at the same time if we should endeavor to convince that same misguided individual that he should carry his prescriptions to his competitor across the street to be filled, he would in all probability take us for a mental weakling. There can be no element of time to be considered when a clerk is paid a stipulated monthly salary for his work, and where he necessarily has many hours of idle time that should be spent to advantage. And we all know the small druggist can not afford to employ a pharmacist for prescription work only. Consequently, aside from the prescription end of the business, he occupies every position from porter to proprietor, and still has quite an abundance of time which could be used profitably. But should this time be taken into consideration from a financial viewpoint, these preparations could still be made more cheaply than they could be purchased from the wholesaler. I will quote only a few of the ones which I make and which I am sure is true of most U. S. P. and N. F. preparations: Elixir Digestivum Compositum N. F. (III), Elixir Ferri, Quininae et Strychninae N. F., Unguentum Resorcinolis Compositum N. F., Unguentum Zinci Oxidi U. S. P., Liquor Antisepticus Alkalinus N. F., Liquor Antisepticus N. F. and Liquor Cresolis Compositus U. S. P. It is hardly necessary to quote figures on the probable cost of these preparations, but by consulting the formulae, getting the prices of the various constituents and comparing the cost of the finished product with that of the manufacturer it can be seen at once the saving to be made.

The argument that a druggist cannot make them is about the most deplorable idea, to my mind, that a person could entertain. I would not want to charge these men with such a gross degree of ignorance, but if this is true, and we will accept the statement from them, then these same druggists have admitted their inability to successfully compound a physician's prescription. If he has the qualifications to fill correctly a prescription, he certainly can take the Pharmacopoeia and with the explicit directions given therein make the various preparations which are outlined.

I have found the physicians in my locality always eager to coöperate with the druggists in prescribing preparations of which they know something regarding the constituents. Very few of them would insist on a certain manufacturer's Elixir Iron, Quinine and Strychnine, etc., when the careful and discerning pharmacist would take the pains to show them the formulae for these preparations which he makes. And to further gain their confidence, take them with you behind your prescription case or in your laboratory if you are so equipped, and show them these things in the making. Let them see, not only the U. S. P. and N. F. formulae which you are using, but insist that they see the ingredients incorporated. It is, in a measure, true as many claim, that the physician does not coöperate with

the druggist as he should, but before we too severely criticize him we, in justice to his profession, must admit that as a profession we do not bring ourselves into as close relationship with him as we should. If we would take more interest in the manufacture of these preparations of the U. S. P. and N. F., then sample the local physician as do the large manufacturing concerns and otherwise keep these products before them, I have no doubt but that the pharmacist would come into his own.

ESSENTIAL OILS AND IMMUNITY.

From very ancient times various aromatic and pungent substances have been regarded as possessing prophylactic powers in some measure. It is curiously interesting, therefore, to learn that modern bacteriologists have discovered that in certain cases of infectious disease some of the essential oils such as those of cinnamon, cloves, mustard, garlic, thyme, and marjoram, not only possess bactericidal power, but may even be made to confer immunity when injected like serums. Certain investigations of this highly complex subject recently made by Mr. F. d'Herelle of the Pasteur Institute are reported in the *Bibliothèque Universelle* (Lausanne) for June. He said:

"There is a bacillus belonging to the group of the paratyphics, the *bacillus typhi murium*, which is naturally pathogenic for white mice. Many attempts have been made to render it inoffensive for these little creatures by vaccinating them with a product containing dead bacilli; but the project has always failed though attacked in the most various fashion.

"Mr. d'Herelle then asked himself whether this failure was not due to the manner in which the bacilli had been killed, and, therefore, sought some new method. In the course of his investigations it occurred to him to kill the bacilli meant to serve as a vaccine by means of essences (essential oils), as had been done by Mr. E. Roux. This process has the advantage, according to the eminent bacteriologist, of not altering the albuminoid matters and the diastases contained in the substance of the microbes. No attempt had hitherto been made to prepare vaccines with bacilli killed by essences. Mr. d'Herelle found by experiment that vaccines thus prepared from the essences of cinnamon, garlic, thyme, marjoram, cloves, and mustard were active in certain conditions.

"Thus a white mouse into which is injected a vaccine containing from 500,000 to 10,000,000 corpses of bacilli slain by the essence of mustard is immunized against mortal, and even very 'super-mortal' doses of the living bacilli. But these limits must be maintained with great care in order to obtain immunity, and care must be taken to give a stronger dose to a young mouse than to an adult. For if the dose of 10,000,000 be surpassed, the immunity obtained is very feeble, with little resisting power, and the more the dose is surpassed the weaker the immunity, apparently. On the other hand, the dose must consist of not less than half a million, thus a dose of 150,000 bacilli confers no immunity. It is also useless to try to obtain immunity with a number of successive doses, superior to 10,000,000; the result is *nil*, as if one had done nothing. To resume, the essence of mustard gives a very active vaccine, in this particular case, against hundreds of mortal doses of virus, provided the immunizing doses are confined within the given limits."

SECTION ON HISTORICAL PHARMACY, AMERICAN PHARMACEUTICAL ASSOCIATION

THE PHARMACY AND MEDICINE OF SIR WALTER SCOTT.*

BY ARTHUR W. LINTON.

Then in what robes of honor habited
The laureled wizard of the North appears!
Who raised Prince Charlie's cohorts from the dead
Made Rose's mirth and Flora's noble tears,
And formed that shining legion at whose head
Rides Waverly, triumphant o'er the years.
—Joyce Kilmer.

There may be those who will consider a paper upon the above subject as not strictly entitled to a place among the contributions to the Historical Section. Although Scott's works are, of course, not histories, there is much of history contained in them. Sir Walter Scott was an antiquarian of remarkable ability, one who studied with painstaking care the records of the customs, manners and usages of bygone days, especially those of his own beloved Scotland. Possibly his portrayal of the practice of pharmacy and medicine in the periods of which he writes is as accurate as it is possible to obtain.

Although physicians and apothecaries are found less frequently in Scott's works than are their brethren of the clerical and legal professions, yet we may believe that Sir Walter was familiar with much that pertains to medicine. His maternal grandfather was a physician, a member of the medical faculty of the University of Edinburgh, and Scott counted among his intimate friends a number of physicians.

In *Rob Roy* we find a picture of the Glasgow surgeon apothecary of 1715 or thereabouts. The hero, Frank Osbaldistone, having been wounded in a duel, relates his experience as follows: "I stopped at a small unpretending shop, the sign of which intimated the indweller to be Christopher Neilson, surgeon and apothecary. I requested of a little boy who was pounding some stuff in a mortar, that he would procure me an audience of this learned pharmacopolist. He opened the door of the back shop, where I found a lively elderly man, who shook his head incredulously at some idle account I gave him of having been wounded by the button of my antagonist's foil breaking while I was engaged in a fencing match. When he had applied some lint and something else he thought proper to the trifling wound I had received, he observed: "There never was any button on the foil that made this hurt. Ah, young blood! young blood! But we surgeons are a secret generation. If it were not for hot blood and ill blood what would become of the learned faculties?" "

The *Fortunes of Nigel*, the scene of which is laid in the London of James I, introduces us to the apothecary of that period. In the opening chapter, Richard Moniplies, serving man to the hero of the story, and who has just arrived from Scotland, becomes the butt of the prentices of Temple Bar. "The probationary

* Read before Section on Historical Pharmacy, A. Ph. A., Atlantic City meeting, 1916.

disciple of Galen, who stood at his master's door in his flat cap and canvas sleeves with a large wooden pestle in his hand," accosted the somewhat bewildered Scotsman as follows, "'What d'ye lack sir? Buy a choice Caledonian salve, *Flos Sulphur, cum butyro quant suff!*'"

Poor Richard a little later becomes engaged in a brawl with some of the impudent prentice lads, and is injured. Like the victim of a present-day street accident he is carried to the apothecary for first-aid treatment. Not the apprentice, but the apothecary himself, Mr. Raredrench, ministers to the needs of the wounded man. This gentleman had rather more lore than knowledge, and began to talk of the sinciput and occiput, and cerebrum and cerebellum. One of the bystanders asked the apothecary whether bleeding might not be useful, when after humming and hawing for a moment, and being unable on the spur of the moment to suggest anything else, the man of pharmacy observed "'that it would at all events relieve the brain or cerebrum in case there was a tendency to the deposition of any extravasated blood.'"

The Abbot is a story of Mary Queen of Scots. A most interesting character of the story is Dr. Lundin. The Doctor's office was cumbered with "stuffed birds and lizards and bottled snakes and bundles of simples made up, and other parcels spread out to dry, and all the confusion, not to mention the mingled and sickening smells incidental to a druggist's stock in trade, * * * also heaps of charcoal, crucibles, bolt-heads, stoves and the other furniture of a chemical laboratory." Dr. Lundin is indignant at the sight of the clown "'who, having the strength of a tower, has lived fifty years in the world and never encouraged the liberal sciences by buying one pennyworth of medicaments.'"

On the other hand, the worthy Doctor is moved to admiration of a peasant with swollen legs and most cadaverous countenance, who, says the Doctor, "'breakfasts, luncheons, dines and sups at my advice, and not without my medicine, and for his own single part will go farther to clean out a moderate stock of pharmaceutica than half the country besides.'"

Dr. Lundin is loud in his denunciation of old women who disturb "'the regular progress of a learned and artificial cure with their syrups and their juleps and diascordium and mithradate and my lady what-shall-call-um's powder, and worthy Dame Trashem's pills, * * * and cheat the regular and well studied physician.'"

Very numerous in Scott's stories are the wise old women, who with charms and simples are prepared to minister to the ills of mankind. Among such were old Euphane Fea of *The Pirate*, "who was well versed in all the simple pharmacy used by the natives of Zetland," and Ailsie Gourlay of the *Bride of Lammermoor*, "whose pharmacopoeia consisted partly of herbs selected in planetary hours, partly of words, signs, and charms which sometimes produced a favorable influence upon the imagination of the patients."

However, in the rough warlike times of which Scott wrote, not only were the wise women of the villages possessed of knowledge of simple remedies, but frequently ladies of quality, and even of the nobility, were versed in the healing art. In an age when men of medicine were few, and when strife and bloodshed were all too common, it frequently became the duty of some noble dame or damsel possessed of slight knowledge of medicine and surgery to bind up the wounds of the warrior.

In *A Legend of Montrose*, a story built around the brilliant campaigns of the

Marquis of Montrose during the Cromwellian wars, we find a picture of Annot Lyle "superintending the preparation of vulnerary herbs to be applied to the wounded, receiving reports from different females respecting those under their separate charge, and distributing what means she had for their relief."

Critics have judged that in all the wide range of fiction there is no more beautiful character of a daughter of Israel than that of Rebecca in *Ivanhoe*. Every reader of this, probably the best known of Scott's stories, will remember Rebecca's defiance of the advances of the crafty Templar, Brian de Bois Gilbert. It will be remembered also that Rebecca possessed some knowledge of medicine. In the words of Isaac, her father, "I well know that the lessons of Miriam, daughter of the Rabbi Manasses of Byzantium, * * * have made thee skilful in the art of healing, and that thou knowest the craft of herbs and force of elixirs.'"

It was through the ministrations of Rebecca, and the application of a marvelous warming and spicy smelling ointment that *Ivanhoe* was cured of the desperate wounds received in the tournament. Later in the story Rebecca is accused of witchcraft, and "two mediciners, a monk and a barber, being questioned in regard to the balsam, which in the hands of Rebecca had effected many cures, testified that they knew nothing of the materials excepting that they savored of myrrh and camphire, which they took to be oriental herbs. But with true professional hatred of a successful practitioner, they insinuated that since the medicine was beyond their own knowledge it must necessarily have been compounded from an unlawful and magical pharmacopoeia."

It may be of interest to note that the original of the character of Rebecca was Miss Rebecca Gratz of Philadelphia. This young lady was a very dear friend of Miss Hoffman, the fiancée of Washington Irving. Miss Gratz, although beautiful and accomplished, gave her life to philanthropy and was known for her good works. By Irving her character was described to his friend Scott, who made use of it as has been stated. A picture of the life of the real Rebecca is given in the answer of Rebecca of York, when being asked by the Saxon Rowena whether the Jews maintained convents, Rebecca replied, "'No, lady, but among our people since the time of Abraham downwards, have been women who have devoted their thoughts to Heaven and their actions to works of kindness to men, tending the sick, feeding the hungry and relieving the distressed. Among these will Rebecca be numbered.'"

Turning from *Ivanhoe* it is fitting that we glance next at that other tale of Richard Cœur de Lion, *The Talisman*. The scene of this story is laid in Palestine at the time of the Third Crusade. At that period the Moslem nations were in many respects superior in intelligence to the people of western Europe. The soldiers of the Cross, by contact with their foes, gathered much of the learning of the East, and this came to have a profound influence upon European civilization. In *The Talisman* we are given a glimpse of the Moslem medical practice of that day as conceived by Scott. El Hakim, an Arabian physician, who later proves to be the Sultan Saladin in disguise, enters the fever-stricken camp of the Christians and works marvelous cures. He is led to the bedside of Richard of England, himself prostrated by the fever. After learning the symptoms and observing the pulse "the sage next filled a cup with spring water and dipped into it the small red purse. * * When he seemed to think it sufficiently medicated he

was about to offer it to the sovereign, who prevented him by saying, 'Hold an instant, thou hast felt my pulse, let me lay my fingers on thine.' * * 'His blood beats calm as an infant's,' said the King; 'so throbs not theirs who poison princes.' "

The king recovers under the treatment and is profoundly impressed with the marvelous value of the medicine or 'talisman.' " 'A most rare medicine,' said the King, 'and a commodious, and as it may be carried in the leech's purse, would save the whole caravan of camels which they require to carry drugs and physic stuff.' "

Later in the story, El Hakim, in treating the sick and wounded knight Sir Kenneth, makes use of what we may understand to be opium. The physician thus describes his remedy: " 'This is one of those productions of Allah sent on earth for a blessing, though man's wickedness and weakness have sometimes converted it into a curse. It is powerful as the winecup of the Nazarene to drop the curtain on the sleepless eye and to relieve the burden of the overloaded bosom, but when applied to the purposes of indulgence and debauchery, it rends the nerves, destroys the strength, weakens the intellect and undermines life.' " We are given also a picture of the patient's sensations as he passes under the influence of the opium. "Sleep came not at first, but in her stead a train of pleasing but not of rousing nor awakening sensations. A state ensued, in which, still conscious of his own identity and his own condition, the knight felt enabled to consider them not only without alarm and sorrow, but as composedly as he might have viewed the stories of his own misfortunes acted upon a stage; or rather as a disembodied spirit might regard the transactions of its past existence. From this state of repose, amounting almost to apathy concerning the past, his thoughts were carried forward to the future, which in spite of all that existed to overcloud the prospect, glittered in such lures, as under much happier auspices his unstimulated imagination had not been able to produce, even in its most exalted state. * * * Gradually as the intellectual sight became more clouded, these gay visions became obscure, like the dying hues of sunset, until they were at last lost in total oblivion."

Sir Walter Scott, true lover of dogs as he was, describes most graphically El Hakim's surgical treatment of Sir Kenneth's noble hound which had been wounded by a spear thrust. "The physician inspected and handled Roswal's wound with as much care and attention as if he had been a human being. He then took forth a case of instruments, and by the judicious and skilful application of pincers, withdrew from the wounded shoulder the fragments of the weapon and stopped with styptics and bandages the effusion of blood which followed, the creature all the time suffering him patiently to perform these kind offices as if he had been aware of his kind intentions."

There are found in a number of the Waverly novels some most interesting references to the home remedies used in treatment of domestic animals. In the *Bride of Lammermoor*, Bucklaw recommends to his friend Ravenswood the following remedy for a lame horse: " 'Take a fat, suckling mastiff whelp, flay and bowel him, stuff the body full of black and gray snails, roast a reasonable time, and baste with oil of spikenard, saffron, cinnamon, and honey, anoint with the dripping, working it in.' "

In *Heart of Midlothian* we find Jeanie Deans, an humble Scottish dairy maid,

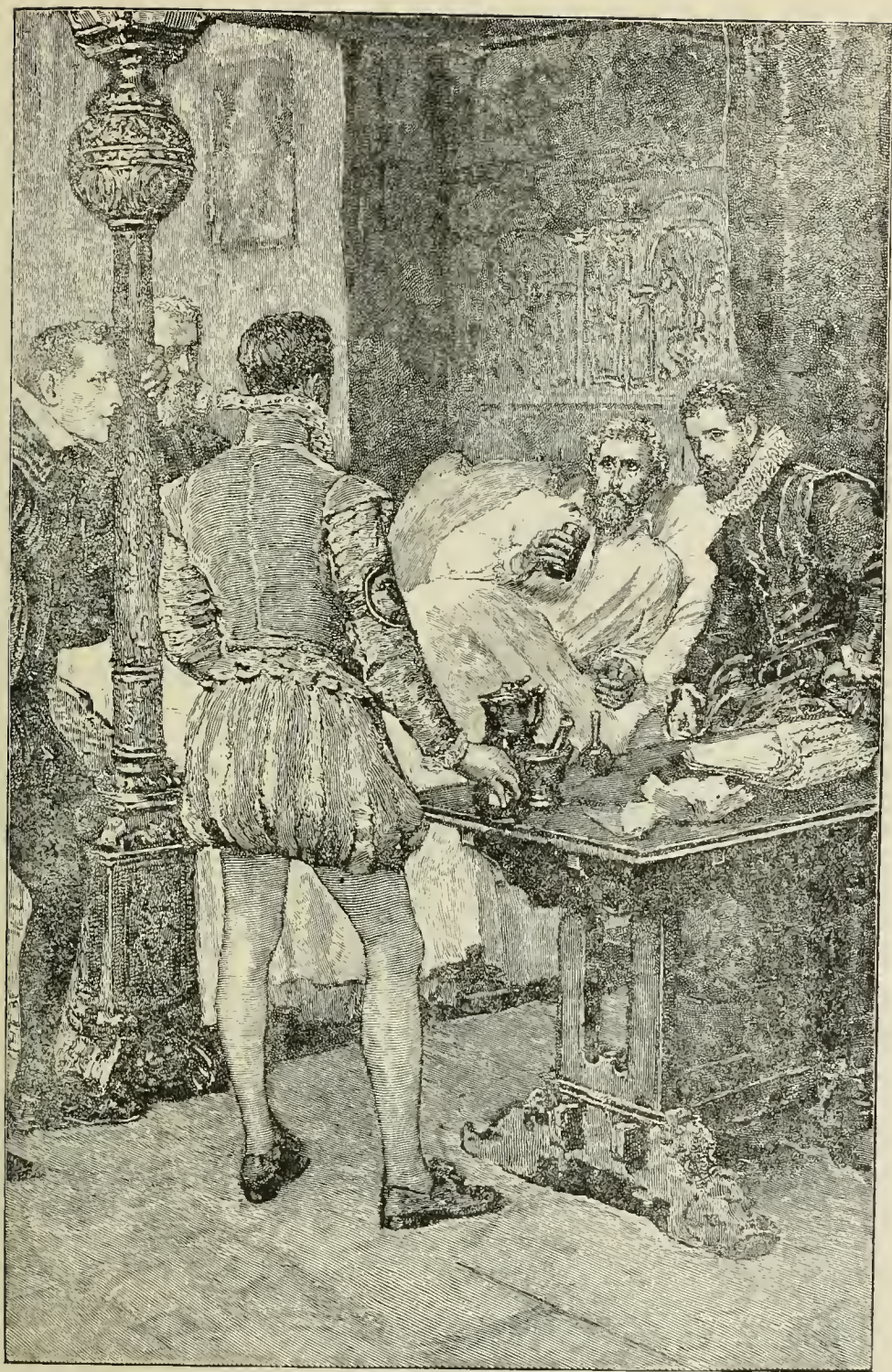
making a toilsome pilgrimage to London to seek a pardon for her condemned sister. True to her thrifty Scotch character, Jeanie does not fail to pick up useful information along the way. She writes to her father, the cow-feeder of St. Leonard's as follows: "'I learned from a decent woman, a grazier's widow, that they have a cure for the muir ill in Cumberland, which is one pint of yill (ale) boiled wi' sope and hartshorn drops, and toomed down the creature's throat wi' ane whorn. Ye might try it on the bauson-faced year old quey, an it does nae gude it can do nae ill.'"

Then, too, there are the horse-balls which Sir Henry Lee, remembered by all readers of *Woodstock*, relied upon to save Charles Stuart when he was hard pressed by Cromwell's troopers. "'In this box,' said he, 'are six balls prepared of the most cordial spices, mixed with medicaments of the choicest and most invigorating quality. Given from hour to hour, wrapt in a covering of good beef or venison, a horse of spirit will not flag for five hours at the speed of fifteen miles an hour.'"

For a remarkable portrayal of the sixteenth century alchemist we may turn to the pages of *Kenilworth*, the sad story of poor Amy Robsart. One of the characters of this tale is Dr. Doobooie, otherwise known as Alasco, who "'gathered night maddow and male fern seed through use of which men walk invisible, pretended some advances toward panacea or universal elixir, and affected to convert good lead into sorry silver.'" "'He was a learned distiller of simples, and a profound chemist—made several efforts to fix mercury, and judged himself to have made a fair hit at the philosopher's stone.'" This Alasco is a scoundrel, and is employed by the villainous Varney to poison not only Amy Robsart, but the Earl of Sussex. For this purpose Alasco makes use of his Manna of St. Nicholas, a slowly acting poison.

The machinations of Varney and his tool Alasco are foiled in great measure by Wayland Smith, a former pupil of Alasco, who knows the antidote for the Manna of St. Nicholas. Most interesting is the account of Smith's search through the drug shops of London for the various ingredients of the antidote. One of these, very rare and difficult to obtain, after rejecting many substitutes, Smith finally discovers in the shop of old Yoglan, a Jewish apothecary. "'Have you scales,' said Wayland. The Jew pointed to those for common use. 'They must be other than these,' said Wayland. The Jew hung his head, took from a steel plated casket a pair of scales beautifully mounted, and said as he adjusted them, 'With these I do mine own experiment. One hair of the High Priest's beard would turn them.' 'It suffices,' said the artist, and weighed out two drachms for himself of the black powder.'" Later Wayland "obtained from the cook the service of a mortar, shut himself up in a private chamber, where he mixed, pounded and amalgamated the drugs each in its due proportion—with an address that plainly showed him well practiced in all the manual operations of pharmacy."

Wayland Smith was frank to acknowledge that he had commenced his practice by treating horses, gradually extending his field to human patients. For he says, "'The seeds of all maladies are the same, and if turpentine, pitch, tar and beef suet, mingled with turnerick, gum mastic and one head of garlick can cure the horse that hath been grieved with a nail, I see not but what it may benefit the man that hath been pricked with a sword.'" He was especially renowned for a cure for bots in cattle, which noted remedy was described by Jack Hostler as smelling and tasting like "'hartshorn and savin mixed with vinegar.'"



The Earl of Sussex takes Wayland's Potion—*Kenilworth*. Waverly Novels, Dryburgh Edition, Adam and Charles Black, London.

A number of references are found in Scott's works to smallpox and the modifications in the treatment of this dread disease which came to pass as superstition was gradually replaced by science. In *The Surgeon's Daughter* we find a description of the treatment commonly followed in the middle of the eighteenth century. "It is well known that the ancient way of treating smallpox was to refuse the patient everything which nature urged him to desire, and, in particular, to confine him to heated rooms, beds loaded with blankets, and spiced wine, when nature called for cold water and fresh air." The young physician Hartley, in treating the family of General Witherington, introduces more modern practices. "Windows were thrown open, fires reduced or discontinued, loads of bedclothes removed, cooling drinks superseded mulled wine and spices. Doctors Tourniquet and Lancelot retired in disgust, menacing something like a general pestilence in vengeance of what they termed rebellion against neglect of the aphorisms of Hippocrates. Hartley proceeded quietly and steadily, and the patients got into a fair road to recovery."

In *Heart of Midlothian*, when Jeanie Deans meets the queen, we read: "The lady who seemed the principal person had remarkably good features though somewhat injured by the smallpox, that venomous scourge which each village Esculapius (thanks to Jenner) can now tame as easily as their tutelary deity subdued the python."

The Surgeon's Daughter, already referred to, pays a splendid tribute to the Scottish rural physician of the eighteenth and early nineteenth centuries. "This humble practitioner, if he does not find patients at his door, seeks them through a wide circle. Like the ghostly lover of Bürger's Leonora, he mounts at midnight and traverses in darkness paths which to those less accustomed to them seem formidable in daylight, through straits where the slightest aberration would plunge him into a morass. . . . In short there is not any creature in Scotland that works harder and is more poorly requited than the country doctor unless, perhaps, it may be his horse."

Dr. Gideon Gray was a man of this type, whose annual income approached two hundred pounds a year, for which he traveled about five thousand miles upon his ponies Pestle and Mortar, which he rode alternately. "He was of such reputation in the medical world that he had been more than once advised to exchange Middlemas for some of the larger towns of Scotland, or for Edinburgh itself. This advice he had always declined."

There is every reason to believe that the original of Dr. Gray was Dr. Clark-son of Selkirk, Scott's own physician, who pursued his noble career for more than half a century. He never refused by night or day to answer a call to the home of the humblest dweller in all that wild border country, and like other self-sacrificing physicians of all ages and countries, ministered in countless cases where there was no hope of recompense.

Many other references to matters medical and pharmaceutical are found in the Waverly novels, but a sufficient number have been quoted. If in most of those given we find much superstition mingled with a little knowledge, we must bear in mind that all through the centuries practitioners of medicine and pharmacy, like the followers of other sciences, have been shackled by the bonds of ignorance, and that it is only during the last few decades that medicine in its various branches is at last being placed upon a truly rational basis.

WOMEN'S SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

MINUTES OF FIRST SECTION.

The first session of the Women's Section of the American Pharmaceutical Association was called to order in Hotel Chalfonte, September 5, 1916, 3 o'clock P.M., by the President, Mrs. G. D. Timmons.

THE PRESIDENT: The Invocation will be given by the Reverend Henry Merle Mellen.

REV. HENRY MERLE MELLEN: We give thee hearty thanks, our Heavenly Father, that thou hast preserved our lives, and given us an abundance of strength, that thou hast set us in this world to be thy witnesses, to make sure of the ways and means which thou hast given us in this world. We thank thee that thou dost not only give us life, but thou dost give us means to sustain life. We thank thee that thou dost not only render us a full measure of health, but that thou hast established the ways and means whereby that health may be prolonged. We thank thee that this afternoon these worthy women are gathered in that capacity to study the ways or the means whereby the health, and strength of our race may be prolonged. We ask, therefore, that thy blessing may attend their deliberations. Bless these thy handmaidens, we beseech thee, and grant that of the kindred graces that attach to this assembly there may be these higher and truer endeavors whereby those who are in need and those who are in ill health may be restored to that bright earth. So we commend all these deliberations to thee, and pray that thou will walk in the midst of thine handmaidens. Bless their coming in and their going out. Bless them in the name of Him, who went about doing good, who healed all manner of diseases, and who came into this world to save a sin-sick and heart-sick and soul-sick race, even this is Christ our Lord. Amen.

THE PRESIDENT: Mrs. George M. Andrews of this State will give the address of welcome.

MRS. ANDREWS: Madam President, ladies of the Women's Auxiliary of the American Pharmaceutical Association: We, the women of the New Jersey Society, wish to extend formal greetings of Atlantic City and of our State. We want to be your hostesses in the fullest extent, to assist you in obtaining the most benefit and pleasure possible from your pilgrimage to this our City by the Sea. We feel, however, we have comparatively little to offer after participating in the splendid entertainment extended to us in Detroit the Beautiful, with her environment of water, or Denver with the grandeur of her mountain scenery, or the mystic charm of the City of St. Francis with her wonderful exposition to appreciate and entertain you last year, but we bid you a most cordial welcome and, after all, you know there is only one Atlantic City. Her charm has been told by song and solo. As you glide along the Boardwalk in your chair or take your morning stroll the cupids in the briny will be watching for you. The Piers wile us with their music, but our husbands, engaged in scientific discussions until they are suffering from near brain fag, will need our deepest solicitude and constant companionship

because the "chickens" of the Great Wooden Way can scarce resist such attractive men.

But don't let those matters detract from your enjoyment for you will realize they are mere trifles when you know the reason we are so glad to welcome you here is that there is nowhere a land so fair as in New Jersey, so full of song, so free from care as in New Jersey, and I believe that Happy Land the Lord has prepared for mortal man is built exactly on the plan of old New Jersey. (Applause.)

THE PRESIDENT: We will now have a vocal solo, "An Open Secret, Woodman," by Miss Margaret F. Martin.

THE PRESIDENT: I wish to announce the following committees: On nominations: Mrs. Godding, Mrs. Whelpley, Mrs. Dye, Miss Cooper, and Mrs. Holzhauser.

On resolutions: Mrs. Ruddiman, Mrs. Kenaston, Mrs. Apple, Mrs. La Wall, and Mrs. Peacock.

Mrs. Ruddiman, will you take the chair, please, while I read my address.
(Mrs. Ruddiman takes the chair.)

ADDRESS OF PRESIDENT MRS. G. D. TIMMONS.

It is with great pleasure that I extend greeting to the Women's Section of the American Pharmaceutical Association. We appreciate very highly the hearty welcome accorded us, and we know that our stay here will be an enjoyable one, for this is an ideal meeting place. It is a high privilege to be the guests at this Atlantic Sea-board State and at this noted resort.

We have been looking forward with delight to our vacation time. During the hot days of summer, the thoughts of the cooling breezes and the ocean plunges have been both restful and refreshing. These are, as Van Dyke says, "Our real days off." But the greatest delight was found in the memories of past sessions and the pleasant anticipation of again meeting friends and acquaintances.

It is a splendid thing for women to come together in this way. The pleasure of meeting one another, the exchange of views, words of encouragement and the plans for greater usefulness are all very helpful to us and serve as a stimulus for the rest of the year.

The Biennial at New York City (I need not apologize for mentioning this great meeting) was a wonderful inspiration to women all over the country, but especially to the women of the East, as they were able to attend in such vast numbers. It made clear to everyone that women's organizations are practical and that they exist because organization means coöperation, and coöperation, added service. Service has come to be the slogan in women's organizations. It is said that women have the true idea of democracy. "They know that it only means kindness and an entering into the needs and problems of other human beings."

The leaders of the American Pharmaceutical Association (the great men in pharmacy with whom we are privileged to be co-workers) show that they keep abreast with the progress of the times along different lines of endeavor, when they ask the women to join them as a section in this great organization; an organization that stands for all that is best and highest in scientific pharmacy.

So while we may feel somewhat discouraged in that we have not accomplished what we set out to do, I prophesy the Women's Section has come to stay and that the near future will see it well established, with a large attendance, and find it helping to solve real pharmaceutical questions, as well as aiding the American Pharmaceutical Association in a material way.

For the present, the best plan seems to be, to have programs of such a nature that they will appeal to all and attract more and more of our sisters to these meetings, and after that, devote most of our energies toward getting new members for our Section and for the Association.

Still, when we hear so many splendid ideas advanced, it seems that they must be carried out at once—yet, every cause must have time to grow, and slow growth is not a bad thing. In apparent inaction there is often unseen growth. Later, many, and it may be, all of these plans may be carried out with good effect.



SOME OF THE OFFICERS OF WOMEN'S SECTION A PH. A.—Top row, left to right, Mrs. Edsel A. Ruddiman, President; Mrs. Jean M'Kee Kenaston, Secretary; Mrs. Eben G. Fine, First Vice-President. 2nd row, Mrs. Franklin M. Apple, Treasurer; Mrs. George M. Beringer, Second Vice-President. 3rd row, Mrs. Fletcher Howard, Third Vice-President; Miss Bertha Ott, Historian; Mrs. G. D. Timmous, Chairman Executive Committee. 4th row, Miss Anna G. Bagley, Chairman Membership and Press Committee; Mrs. John Culley, Chairman Outlook Committee.

I believe many women are already interested in this Section. Surely women pharmacists enjoy the fellowship of those engaged in the same profession as well as the friendship of the women whose husbands are members of the American Pharmaceutical Association. There is no other way by which they can become so well acquainted. Why should not we, who are the wives of pharmacists, or the wives of those vitally interested in pharmacy, want to get better acquainted with the wives of our husbands' friends and co-workers?

While the men are busy at their various meetings and only a few are able to attend our sessions, our papers and reports are printed in the *JOURNAL* (the official organ of the American Pharmaceutical Association) and every one who is a member of the Association has a chance to read the ideas and opinions of the women interested in pharmacy. This is surely an opportunity for the women to help improve conditions.

We firmly believe that pharmacy is a good field for women, inasmuch as "woman's work is any useful thing that she can do well." She has long since proven her capability and adaptability to do such work "well." For my part, I have much admiration for women who take up pharmacy as a profession: They are the women of initiative and show superiority in a variety of ways.

Just a word with reference to one angle of the publicity campaign. Women pharmacists are far too modest, as efforts, to get material concerning women in pharmacy, say for Mrs. Wallace's page in the *Pharmaceutical Era*, have proven. This does not seem quite the right attitude to take, for just such notices and articles may be an incentive to young women who are in search of a profession. It is manifestly well to bring before them the successful careers of our women pharmacists.

And now in our day of greater advancement, at a time when every pharmacy school demands a high school requirement for admission, and offers a better arranged curriculum than ever before, it is a double inducement to the young woman to adopt this profession.

Again, there were women this year whose husbands are prominent members of the American Pharmaceutical Association, who did not know they were eligible to membership in our section. It was suggested last year that a card be sent out to the wives of the members, saying "You are a member because your husband is." You will readily see a *certain* difficulty that might arise. Might this not be obviated by writing to the men of the Association, with whom the writer was not acquainted, asking them if there was a mother, wife or sister in their immediate family, and if so, request him to inform her that she was, automatically, a member of the Women's Section. Also ask that her name and address be sent to our Secretary.

I wish to recommend first, that the membership and press committees be combined. The chairman of the different districts would be in a position to appoint a press member, and this press member would be under the supervision of the general chairman of the Membership Committee.

Second, that the Executive Committee assign and supervise the work of the other committees, thus making the work more definite and uniform.

Third, that copies of the proceedings of this meeting be widely distributed, and that they include, as in the past, the constitution and by-laws, thereby disseminating the knowledge of the objects and aims of this Section.

I deeply appreciate the honor shown in making me President of the Women's Section. I wish to thank every one who has contributed in any way toward the success of this meeting. To the chairmen and members of the different committees, but especially to the chairman of the Executive Committee, Miss Cooper, who has had the arranging of the program, much credit is due. To our Secretary who has been patient, hard-working and selfless, I extend my sincere thanks.

The interests of the Women's Section will always be near my heart and I will be ever ready to do even more than my share in the promotion of its interests.

Let us be hopeful, cheerful, and ambitious to welcome every movement for the furtherance of this organization. May we all view the wide horizon that was seen by the noble women from whose inception this organization grew. Let us work unitedly, each doing willingly the duty assigned, and soon the American Pharmaceutical Association, which stands for all that is ethical, scientific and professional in pharmacy, will realize that this Women's Section was needful to make the greater organization a perfect whole.

"We will reach out to pastures new, where the soul feeds,

Reach out and up, God knows the spirit's needs—Keep Growing."

THE CHAIRMAN: Ladies, you have heard this very interesting and instructive address. What will you do with it?

MRS. KENASTON: Madam President, I move that the presiding officer appoint a committee to consider the address.

(This motion was duly seconded and carried.)

THE CHAIRMAN: I will appoint Mrs. Rusby, Mrs. Eberle, and Mrs. Fine on this committee.

(The President resumes the chair.)

THE PRESIDENT: We will now have the report of the Executive Committee, Miss Cooper, chairman.

MISS COOPER: Madam President, before taking up my report there are greetings here that should be read: "To the Women's Section, American Pharmaceutical Association: Sincere greetings and good wishes from the Women's Organization National Association Retail Druggists, Nellie Florence Lee, Secretary."

Another: "With a knowledge of the great benefits to be derived from participation in the meetings of the A. Ph. A. and the memory of pleasant associates still fresh in our minds we feel it is our great misfortune that the width of the continent prevents our being with you to-day. While we are wishing for you in the East a happy and successful meeting, we in the West will patiently await the publication of your valued papers and the report of your good times. Hearty greetings from the Women's Pharmaceutical Association of the Pacific Coast, Ethel E. Nelson, President."

(Miss Cooper reads written report of the Executive Committee.)

Chalfonte, Atlantic City, N. J.

The report of the Executive Committee can be only a matter of formality. The members have not been idle but what has been done does not lend itself to comment.

There might be a statement of the number of letters written and the much smaller number of replies. Something could be said about the requests for contributions to the program and the lack of response. However, not one of you is in the least concerned about either of those details. The Committee realizes that it is expected in common parlance to deliver the goods and that excuses or explanations have no interest for you. Therefore, there shall be none.

No special work has been brought to the attention of the Committee during the year and effort has centered around the program.

The Committee desires to express its appreciation of the very great help that has come from officers and members and to thank particularly those who consented to have a part in the program.

Respectfully submitted,

CLARISSA M. ROEHR,

ADELAIDE GODDING,

ZADA M. COOPER, *Chairman*.

THE PRESIDENT: Is there a motion? What will you do with the report?

MRS. WHELPY: I move it be accepted.

MRS. GODDING: I second the motion.

(Motion put before the house and carried.)

THE PRESIDENT: We will now have the paper, "Our Wives—Neutrals," by Mr. J. Leyden White. (Read by Miss Cooper, Mr. White not being in attendance at the meeting.)

OUR WIVES—NEUTRALS.

BY J. LEYDEN WHITE.

Although "Coöperation" has been given as the title for not only one, but many of the most prominent topics of discussion during recent years, it has, at the best, generally been restricted

to either side of an imaginary and yet none the less obstructive line of human division. That is the line of mental selfishness and prejudice which we run between the words "Producer" and "Consumer."

As a matter of fact, every civilized human being except the absolutely mentally or physically helpless, is both producer and consumer, for every individual, even in the highest professions, has some connection with some substance of consumption prior to the actual consumption, while, of course, every living thing consumes. However, man has been in the past almost exclusively in charge of the direct actions of production, and although this relation is now rapidly changing in actions through the coming of women into the business and professional fields, it will be many generations before the mental contrasts of the sexes will disappear; for many generations yet man will be controlled by what I make bold to call the *narrow* environments of business, while woman will still have the mental freedom of the almost unlimited field of the home.

What is my reason for calling woman's field "unlimited" and man's "narrow?" This! With the exception of a small part of objects for his personal consumption; chiefly his luxuries rather than his necessities, man buys only to sell again. Even in books for his professional advancement; even in the payments for professional instruction, he is but buying to sell again. Woman buys to use; to consume.

Basing their calculations upon statistics gathered by eminent economists, such generous authorities as Mrs. Julian Heath, president of the National Housewives League and Mrs. Christine Frederick associate editor of the *Ladies' Home Journal* and other prominent publications, state that American women spend between eighty and ninety percent of all money invested in things for use. It is estimated that even in man's peculiar needfuls, such as outer clothing and hats, women spend more than sixty-five percent of the total, while, on the reverse, what man spends for his wife's apparel generally amounts to about thirty cents—and looks like it.

On the other hand, while the responsibility of man greatly lessens, if it does not cease, when he has earned money to spend, woman realizes the burden of earning through the almost invariable limitation of what she has to spend. In the drug business the majority of wives have had only a door, or at most but a few feet separating home and business, and thus have felt the dual responsibility of earning and spending as few classes of women have.

While it is true that some women talk "kitchen" just as narrowly as a great many men talk "shop," the very fact that the life of woman is so much less confined than that of man; that she has so much more of the stimulation of child association than man has, makes her social life broader and her economic calculation less complicated and clearer than that of man. Man spends with calculation largely restricted to what the results of expenditure will be upon a little drawer in one cash register. Woman spends with thought of the appearance, health, education, morals, housing, pleasures and every other factor in the lives of each and all of her loved ones, not only when they may be at home, but everywhere. For the love of woman spans the world and encompasses the universe of thought!

Thus it comes, as I have found by more than one personal experience, that woman far more easily grasps the significance of the fact that "producer" and "consumer" are merely terms to be applied to distinguish between classes of mental and physical efforts of the same man, woman, or even child.

Without detail of expression it must here be clear that coöperation to be really effective; that, in fact anything really deserving the name of coöperation must simply, clearly acknowledge this duality of the individual and rise superior to the restrictions of any commercial or professional class. As a matter of actual fact, the very best rule by which to calculate costs, overhead charges and profits is the Golden Rule. And the druggist, the grocer, the clothier will all see it and use it when they realize that it is a rule that covers them all, because all are both producer and consumer under it.

But man still is commonly in need of a guide to lead him into this path of true coöperation—and he never will find it until woman in her clearer thought, thought drawn from her broader economic experiences, shall bravely make plain her true position of neutrality, and with the courage of her experience show that so-called coöperation which endeavors to eliminate a practice from the drug business by branding it as evil, while encouraging it in the grocery business by branding it as a virtue, will never lead any place that is worth going to.

To make the bald statement that the way to stop selling at cut prices is to stop buying at

them, may bring down upon my head much of ridicule or even something verbally more pungent. Yet, as a matter of fact, in the Stevens bill campaign and all similar work we are asking the law-makers to *compel* us to stop *buying* at cut prices.

Now, isn't that a rather ridiculous mental condition for the business men of a nation to place themselves in?

What are we trying to do is to change the Golden Rule into a Golden Law. We are saying to Congress and legislatures: "Please *compel* me to do unto others as I would that they should do unto me."

I am not suggesting that any legislative effort should be lessened. On the contrary I advise that all effort be many times doubled. But we know that truly just legislation never comes except at the demand of the general public. No legislative, no public measure of any sort is right, none deserves enactment unless it conforms with public policy, unless it meets with the intelligent sanction of the producer-consumer public. To-day there is much in the trade journals and the general press of the necessity of "educating" the public to the point of approving the Stephens bill and other measures. And the mental, yea the spoken attitude of the educators is practically that we say to our customers: "Please ask your congressman to *force* me to stop buying at cut rates from your husbands so that I shall not be *forced* to sell at cut rates to you."

You women of the A. Ph. A. with your sisters among all intelligent womankind are the great army of true neutrals throughout all the economic world. Some of the performances of us men folks must remind you of this war in which great nations are stirred to their very roots every ten yards of trench changes hands—and the next day changes back again.

If ridicule will breed consistency, then ridicule us a little. But there are other and better ways in which your great power can be used to set the race right. Beside yourselves there is another great body of neutrals. It is the body dearer to you, to us, than is any other body on earth. That body is under your control; it marches whither you will and speaks the words you teach. By its aid you can bring us into the true fraternity, into real coöperation. Teach us that whatever hurts the grocers' babies hurts our babies—or grandbabies—and things will be much brighter in this funny little old world!

THE PRESIDENT: Is there any new business? If there is no new business we will have the piano solo, "Gondoliers, Nevin," by Miss Martin.

(Miss Martin then rendered a delightful piano solo.)

THE PRESIDENT: The second session will be held next Thursday at two o'clock in this room. We will now stand adjourned.

SECOND SESSION.

The second session of the Women's Section was called to order by the President, Mrs. G. D. Timmons, at the Hotel Chalfonte, September 7, 1916, at 2.30 o'clock P.M.

THE PRESIDENT: We will again have the pleasure of listening to Miss Martin, who will give a vocal solo, "Amulets, Rogers."

(Vocal solo was rendered by Miss Martin.)

THE PRESIDENT: It is necessary to have the report of the Committee on Resolutions at this time, Mrs. Ruddiman.

Chalfonte, Atlantic City, N. J.

The Committee on Resolutions wish to submit the following for your consideration:

We would express cordial appreciation for the greetings sent by the Women's Pharmaceutical Association of the Pacific Coast and the Women's Organization National Association of Retail Druggists.

We wish to thank the ladies of the New Jersey Pharmaceutical Association and the local committee for their cordial welcome and the delightful entertainment given us. We also wish to thank those whose sweet music and instructive papers and talks have made our program one of the best we have ever had.

We wish to express to the President, Mrs. G. D. Timmons, to the chairman of the Execu-

tive Committee, Miss Cooper, and to all other officers, our appreciation of their efficient service during the past year. We especially wish to thank Miss Anna Bagley for her continuous and effective work as secretary during the life of this Section and we regret very much that she can no longer serve us in that capacity.

And finally we wish to express the deep sense of loss and sorrow which this Section feels in the death of Mrs. W. B. Day and Miss Alice Henkel. Their helpful service and kindly friendship will be missed in the deliberations of the Section. We hereby tender our sincere sympathy to their bereaved friends.

(Signed) MRS. E. A. RUDDIMAN,
MRS. HAMPTON RAY KENASTON,
MRS. C. H. LA WALL,
MRS. F. M. APPLE,
MRS. J. C. PEACOCK.

MRS. RUDDIMAN: Madam Chairman, I would move the adoption of these resolutions.

MRS. KENASTON: I second the motion.

(This motion was carried.)

THE PRESIDENT: We will have greetings.

MISS COOPER: I have here greetings from Mrs. Fletcher Howard: "To the Women's Section of the American Pharmaceutical Association. I bring greetings from God's country and in fancy please imagine me present listening and profiting by your wise discussions. I trust the Women's Section is growing in strength and numbers. I hope to meet you next year in Maine."

LETTER FROM THE HONORARY PRESIDENT

New Orleans, August 30, 1916.

To the Members of the Women's Section of the A. Ph. A. in Convention Assembled:

DEAR FRIENDS:

It is with the greatest regret that I am not able to be with you at this meeting. I sincerely thank you for the honor you conferred upon me at your last meeting, by making me the Honorary President of the Women's Section—it was my earnest desire to meet with you this year, and express my appreciation in person, but, the pleasure is denied me, therefore, will do the next best thing and attempt to express my appreciation in writing. I long for the "pen of a ready writer," so I could make you fully understand how much I thank you for the honor.

I hope this meeting will be the most successful you have ever had, and all the benefits you hope to do the profession will be fully realized.

With cordial greetings to all,

Sincerely yours,

(MRS. F. C.) ELIZABETH ARNY GODBOLD.

THE PRESIDENT: The Committee on Nominations will please report, Mrs. Godding.

MRS. GODDING: The Nominating Committee reports as follows: For President, Mrs. E. A. Ruddiman, of Nashville, Tennessee.

Honorary President, Mrs. John P. Hancock, of Baltimore, Maryland.

First Vice President, Mrs. E. G. Fine, of Boulder, Colorado.

Second Vice President, Mrs. G. M. Beringer, of Camden, N. J.

Third Vice President, Mrs. Fletcher Howard, of Los Angeles, California.

Secretary, Mrs. Jean McKee Kenaston, of Bonesteel, South Dakota.

Treasurer, Mrs. Franklin Apple, of Philadelphia.

Historian, Miss Bertha Ott, of Cincinnati, Ohio.

Chairman of the Executive Committee, Mrs. G. D. Timmons, of Valparaiso, Indiana.

Chairman of the Membership Committee, Miss Anna G. Bagley, of Columbus, Ohio.

Submitted by the Nominating Committee: Mrs. Adelaide M. Godding, Chairman; Mrs. H. M. Whelpley, Mrs. Charles Holzhauer, Miss Zada M. Cooper and Mrs. C. Dye.

THE PRESIDENT: What will you do with this report?

MISS BARNHILL: I move that we make the election unanimous.

(This motion was seconded by Mrs. Holzhauer, and carried.)

THE PRESIDENT: We will now have the report of the Secretary. She is not present, but Mrs. Whelpley will read the report.

REPORT OF THE SECRETARY.

Your Secretary much regrets that press of business has prevented a more efficient discharge of her duties during the past year.

At the San Francisco meeting your Secretary was instructed to send out a card advising the women of the families of A. Ph. A. members that they are members of the Women's Section. While the Secretary realizes that many women do not as yet understand that they automatically become members of this Section when their men folks join the A. Ph. A., and that it would stir up a lot of interest to send out the proposed card, for lack of funds this instruction was not carried out. Our appropriation in the A. Ph. A. budget last year was but for \$25.00. Using only one cent postage, it would have required about \$30.00 to mail out the cards and about \$15.00 additional to print the cards and address them. Added to this was the uncertainty of whether or not the members possessed a wife in the "present tense." After considerable study of the problem as to how best to reach and interest all the women that should be interested in our Section, your Secretary believes it can only be done through the district-and-state plan adopted for the work of the Membership Committee. A general supervisory chairman in each district directing the work of state chairmen who would be more likely to have personal knowledge of the prospects in her individual state, would apply to all classes and divisions of our work. With such a unit plan of organization we should be able to reach every prospect in the country.

Another suggestion which the Secretary was directed to work out was that Boards of Pharmacy grant a temporary license to women pharmacists from other states who wish to exchange positions for educational purposes without sacrificing their positions. This too, is a fine suggestion, but evidently the fact has been overlooked that a state board of pharmacy is not free to make arbitrary rulings concerning who may or may not practice within the state, but is bound by its state laws. In no case with which I am familiar would the law permit such an arrangement. If a reciprocal registration could be arranged between any two states, then by the payment of the fee, the law would be satisfied and an exchange of positions would rest entirely with the employing proprietors concerned. Discussion of this subject might discover a way in which the benefits of such an interchange of positions would be made possible.

During the present year we have secured nine memberships, from which the Section will receive \$1 each as commission. I hope the question of funds for our treasury will be freely discussed and some practical method for raising funds arrived at at this meeting.

The work devolving on the Secretary is entirely too great for one person to take care of and I would suggest that instead of referring different matters to the Secretary to dispose of, that a committee be appointed to take care of each matter which requires any continued attention. These committees would form a corps of assistant secretaries and they could report to the Secretary or not as the meeting sees fit to order. In addition to relieving the Secretary of some arduous duties, this plan would interest a larger number of women, no one of whom would be burdened and each one would know definitely what was expected of her. For instance, let the chair appoint:

A committee of one to write a letter welcoming all new women members to the A. Ph. A. and the Women's Section. A letter could also be sent to the newly elected men members advising them that the women of their families were thereby made members of the Women's Section.

A committee of one to correspond with the secretaries of State Boards of Pharmacy to secure the names and addresses of any women applicants to the board and any other matters they might be able to supply which would be useful to us.

A committee of one to correspond with the secretaries of State Associations regarding any women pharmacists in the organization or of which they may have personal knowledge in the state, and any unfavorable conditions existing in the trade which we might be interested in.

A committee of one to correspond with deans of colleges of pharmacy regarding alumni and present students.

A committee of one to correspond with the State Educational Departments in an effort to bring some knowledge of pharmacy to the high school students during their junior and senior years so that they would consider pharmacy along with other lines when choosing a vocation.

The information gained by all this correspondence would be valuable for the membership committee in its campaign. The list of committees could be increased as the need arises.

Our one great aim should be to advance the interests of A. Ph. A. at the same time we are helping the individual and this constant correspondence throughout the country will be a great advertisement for the parent organization.

A committee of one should also be appointed to prepare the report of the meeting for publication. Last year some of our women complained that their communications were published without their knowledge and that had they known they would have been printed, they would have modified them. The A. Ph. A. and other journals would, I believe, prefer a "story" form for our report both from the point of interest and brevity. Papers, of course, should not be abridged unless by the author.

Your Secretary is sorry to miss the meeting this year, but it is unavoidable, and she wishes for you a very successful convention and a happy reunion with A. Ph. A. friends.

ANNA G. BAGLEY, *Secretary*

THE PRESIDENT: What will you do with the report of the Secretary?

MISS COOPER: The Secretary makes a number of recommendations. If we accept it as a whole we are adopting them. Do you mean to adopt her recommendations, every one of them, or would it be better to adopt those one at a time?

MRS. GODDING: I would move we would divide the report and accept the regular report and take the recommendations later.

MISS BARNHILL: I second the motion.

(Motion put before the Section and carried.)

MRS. GODDING: Madam President, before we vote on these recommendations, could we ask the incoming secretary what would be her pleasure about this work? I know that the past secretary has been so occupied with her position that she has found it very difficult to do the work that she wished to do, and in that way perhaps she has thought it would be good to pass it on to others to assist. I am sure that the incoming secretary may be a very busy woman, I am quite sure of it, but I think we should ask her.

THE PRESIDENT: May we hear from you, Mrs. Kenaston?

MRS. KENASTON: Madam President, it is rather difficult for one inexperienced in the work to know just what this would represent; the amount of work that would fall to the secretary of this body. It comes to my mind that the secretary should be in touch with almost all the dealings of the section, and we might reach a conclusion better, if anyone is present whose husband is secretary of one of the other sections she might be able to tell us what the usual custom is and then we might follow that custom, because the rule is, that those things are worked out upon a basis of the best service as a whole. While I realize that I am very busy, it would be a great pleasure to serve to the best of my ability that which would further the best interests of this section, and if it is the duty of the secretary to assume this work, place that duty upon your new secretary. If the section would be better served by different committees, then adopt the plan of having the different committees.

THE PRESIDENT: The idea was to distribute the work, Mrs. Kenaston, and relieve the secretary somewhat, but if you are willing to do the work I am sure that we would be glad to have it that way.

MRS. KENASTON: In the distribution of the work greater service results, that is true, and I am not in a position to know which would give the most effective results to the Women's Section. The one thought which I believe prevails in the minds of all who have sufficient interest to come and be present at this meeting is that the women of the United States so inspire advancement in the profession of pharmacy that the younger generation may take up this work, one of the most effective means of a livelihood open to womanhood.

MISS COOPER: The recommendation that Miss Bagley has made is, that this committee of one correspond with the secretaries of the Boards to get the names of the women applicants for registration. You see those names are not available until reports come out except by collecting them here and there, as they are published in journals, and her idea seems to be to get those names from the secretaries of the Boards. It would mean a few letters, perhaps one apiece during the year to each secretary of the Board in each state, and then those results would later have to be turned over to the Secretary. That is what it would amount to.

MRS. RUDDIMAN: May I make a suggestion? Would it be any better, instead of having a committee of one appointed for so many different things, that is, several different committees appointed, would it be any better to let the incoming secretary keep all of this work in her own hands, having the President to appoint an assistant for her, for this year, then if she finds that she can not do all of this corresponding she simply would write to her assistant and ask her to send out letters of various kinds? Would that be any better than having so many different ones?

MISS COOPER: Madam President, I like that idea. It seems to me that the new secretary might carry out these suggestions of Miss Bagley's by asking various people to help her if she felt the need of it. Any member that has had more experience would be glad to do that, and still that would be carrying out Miss Bagley's ideas which are good, but not have a separate and distinct committee which would mean so many committees to report another year. I will make that a motion. I move that it be left to the incoming secretary to choose her helpers to carry out the recommendations made by the former secretary.

MISS BARNHILL: I second that motion.

(Motion put before the Section and carried.)

THE PRESIDENT: We will make a little innovation and have the installation of officers at this time, as our President has to leave. Will you come forward, Mrs. Andrews, and install the new officers and extend them a hand of greeting and congratulation.

MRS. ANDREWS: Madam President and ladies: I wish to introduce Mrs. F. A. Ruddiman as your incoming president.

MRS. RUDDIMAN: Ladies, I thank you very much for this compliment which you have paid me. I think that you could have done much better in choosing someone else, but I will take the office and try to do the best I can with your assistance.

MRS. ANDREWS: Madam President and ladies, Mrs. E. G. Fine, of Boulder, Colorado, your first vice-president.

MRS. FINE: Ladies, I feel very much honored that you have given me this office, a perfect stranger among you. This, I think, is the second meeting that I have attended, and at the first one I was so very busy that I had not the pleasure of meeting any of you. I thank you.

MRS. ANDREWS: Mrs. Jean McKee Kenaston, of Bonesteel, South Dakota, Madam President and ladies, your secretary.

MRS. KENASTON: Madam President, other officers and members of the Women's Section of the American Pharmaceutical Association: As a representative of the State Pharmaceutical Association of South Dakota and also of the Ladies Auxiliary of South Dakota, I wish to express the appreciation which I am sure these organizations will feel when they learn of the action of this distinguished body. In representing the Women's Auxiliary of the Pharmaceutical Association of South Dakota I appear before you as sweet sixteen, and while I am just the age of the young woman who is seeking a sweetheart, I have found a number of sweethearts in this room, and while only sixteen I still have the distinguished honor of being the mother of the Women's Organizations in connection with the Pharmaceutical Association, the Pharmaceutical Association of South Dakota having formed the first organization for women when its Ladies Auxiliary was organized. Personally I wish to thank you for this recognition of the South Dakota people, and I am glad to carry back to them this distinguished position which this body has been pleased to confer upon me. I thank you.

MRS. ANDREWS: Madam President and ladies, Mrs. F. M. Apple, of Philadelphia, your treasurer for this year.

MRS. APPLE: Madam President and fellow members, I thank you for the honor and I will endeavor to take good care of all the cash.

THE PRESIDENT: We will now listen to the report of the Membership Committee. Miss Cooper will give that report.

MISS COOPER: Madam President, this is only a partial report. Other reports perhaps are in the mail. This is from Mrs. Gray.

REPORT OF CHAIRMAN OF MEMBERSHIP COMMITTEE OF DISTRICT NO. "7."

I was duly notified of my appointment as chairman of membership committee of District No. "7," comprising the states of Illinois, Wisconsin, Missouri, Iowa and Minnesota with the instruction of the secretary that I was to appoint a chairman in each state to act as a sub-committee to secure women members for the Women's Section of the A. Ph. A.

I very soon entered upon my work by asking Miss Zada M. Cooper, of Iowa, to canvass Iowa—and this she very kindly consented to do.

Mrs. Minnie M. Whitney was selected to take care of Missouri. She was very willing to be of assistance—and reports that she had sent out about fifteen personal letters to women pharmacists in an effort to secure members before the annual meeting.

Miss Mary L. Creighton, of Urbana, Ill., kindly consented to send letters and literature to about 100 registered women pharmacists in Illinois.

Owing to some little delay in securing the necessary stationery she was unable to send out these letters early enough to get results before the annual meeting.

Wisconsin was thoroughly canvassed in 1915.

Not knowing any one in Minnesota to appoint as sub-committee I attended to put my effort in there, but was unable to get very much accomplished.

Have mailed out a number of personal letters to friends and acquaintances of mine, and have one prospective member.

Since the last Annual Meeting, I have compiled a list of 200 names and addresses of women pharmacists, which is to be sent to the Secretary for her files.

Respectfully submitted,

M. M. GRAY, *Chairman District No. "7."*

THE PRESIDENT: What will you do with this report?

MRS. WHELPLEY: I move that it be accepted.

MISS COOPER: I second the motion.

(Motion was put before the Section and carried.)

THE PRESIDENT: We will now have the report of the Committee on President's Address, Mrs. Fine.

REPORT OF THE COMMITTEE ON THE PRESIDENT'S ADDRESS.

Hotel Strand, Atlantic City.

MADAM PRESIDENT:

We, your Committee on the President's Address, after careful consideration unanimously recommend that the address be accepted and that the recommendations therein be adopted.

Respectfully submitted,

(Signed) MARY F. FINE,

ISABEL EBERLE,

MARGARETTA S. RUSBY,

Committee.

MRS. FINE: I move you, Madam President, that this report be accepted and the committee discharged.

(This motion was seconded by Miss Cooper, put before the Section and carried.)

THE PRESIDENT: We will now listen to the paper, "Pharmacy—a Desirable Profession for Women," by Mrs. Hampton Ray Kenaston.

MRS. KENASTON: Madam President, I trust that my hearers will regard the few thoughts that shall be presented as a prelude to a discussion that may follow along this line.

PHARMACY—A DESIRABLE PROFESSION FOR WOMEN.

BY MRS. HAMPTON RAY KENASTON.

One of the objects of the Women's Section of the A. Ph. A., as defined by the Constitution, is to emphasize the right and capability of women to engage in all pharmaceutical pursuits.

This is an epoch-making period when woman's right to enter the various fields of education, the professional and commercial occupations, is conceded as proper and she is now welcomed into almost every phase of human activity. Though she is greatest as queen of the home, if she elects to enter the various pursuits demanding greater activity and more intricate mental achievements, she has established her power to make a personal success and also to elevate the plane of all occupations and professions, graced by her presence, by giving a service of worth and courteous business methods that surround her business life with an attractive personality that insures success.

It is not possible to make the greatest success of life unless a definite conception of what we are living for is ever present in our plans. Duty, courage, self-discipline—these are the laws that make a useful woman. Either one without the others is incomplete. A woman who knows her duty but has not the courage to do it, is a failure; equally, if she have not the discipline of mind and heart and hand to do it effectively.

According to the Divine plan, time is the only gift that is distributed equally to all mankind. The Queen, as she rules her thousands of willing subjects and directs the destiny of a nation, does not have one more moment of time in a day, a week, or a year than is given to you or to

me. The usefulness and ability of the individual in their life work is the accumulated results of the manner in which this equal gift has been used.

Time, or as we may more properly term it, life, is our most precious gift and we owe to the world the most intense activity of which we, as individuals, are capable and thus do our utmost to pay the enormous debt we owe for this wonderful gift. We cannot afford not to improve every single day of our time to the advancement of the best interests of our community morally, socially and commercially.

The law of compensation requires that we select a given line of effort that efficiency may be attained and what can be more desirable than to establish equality and ability as man's equal and study to enter one of the professions. Divine teachers, philosophers and poets have recognized this law of equality. As we stand on the threshold of the twentieth century when the light is dawning and women are receiving the recognition they merit, the importance of selecting a profession is brought before the young women, and to them we must offer our assistance and as representatives of one of the very best professions for women, emphasize the merits of pharmacy as their life work.

It is an accepted fact that, when woman entered the profession she elevated it and created a new scope, breadth and magnitude by her achievements in pharmacy, both as a practitioner and as a teacher.

If we review the general field of pharmacy or any of the departments into which it has been divided, we are impressed with the fact that our knowledge of drugs and their uses, with all their complexities of manufacture and dispensing, has been enormously increased. By the assistance of the allied sciences, aided by the improved methods of drug plant culture, chemical manufactures and animal products; the physiological testing of the products, new facts have been discovered and many of Nature's important and well-guarded secrets have been brought forward for our enlightenment and benefit. The physicians have put to test the new remedies evolved and their application in practice has been followed by the most wonderful and brilliant successes in the annals of medicine.

Pharmacy has undergone a pronounced revolution within the present generation and to-day it is taking high rank as a scientific profession. The character of the duties properly belonging to the pharmacist are especially adapted to the work women are capable of performing with the most perfect deftness and accuracy.

A pharmacist is one who is skilled in the art of identifying, preparing, preserving, testing and dispensing medicinal substances. A physician is versed in the treatment of diseases by therapeutic methods. The physician prescribes the remedy to be used, but the pharmacist prepares and dispenses the same. To properly prepare all medicinal substances in such a manner that their use as remedial agents shall produce the desired results, requires a high degree of skill involving knowledge of the medicinal substances to be used and manual dexterity in execution. The most important factor in acquiring skill in the practice of pharmacy is the acquisition of technical knowledge through study, observation and training.

A pharmacist should be known to the medical profession and to the public, as a good chemical analyst, a thorough botanist, a pharmacognosist, and above all a skilled compounder of official pharmaceutical preparations. All these duties women are peculiarly fitted to perform strengthened by their aesthetic tastes, tenacity of purpose and determination to win.

At the prescription counter and at the sales counter woman has succeeded equally with man. She will dispense a life time of loving and efficient service to humanity, for with pharmacy as her choice, it soon becomes her shrine. She will give an air of welcome and cordial greeting to her customers; an atmosphere of competency and cheerful service in whatever department duty may call her; accurate and dependable as a compounder and faithful as a student after leaving the college from which she receives her training.

Women should be encouraged to enter the profession of pharmacy. In every country and in every state of civilization, ancient and modern, history records incidents of women engaged in the preparation and administration of medicines. It further reveals the very interesting fact that women were permitted to practice in Egypt as early as the eleventh century before Christ. The oldest hospital for women known to exist is in Bangkok, Siam and there women dispensed the medicinal substances. For many years women physicians have been common among the hospitals established by the government of Mexico, but it remains for our American women to

establish the truly professional and college educated woman pharmacist and also to give her position such prominence and recognition that the daughters from our best American families may be willing to enter the colleges of pharmacy and complete the course of study.

It is an accepted fact that the possession of the registered pharmacist's certificate does not insure pharmaceutical excellence. To be a highly satisfactory prescriptionist, one must have education, a well equipped laboratory, surroundings in harmony with the dignity of the profession and a personal interest and professional pleasure and pride in prescription work. Since all men who engage in pharmacy are not successful, it must follow that all women selecting this profession may not be successful.

The points of excellence to be attained by the women who are actively engaged in the practice of pharmacy are many and varied. She must be self-reliant. Within ourselves lies the power to be what we will to be and learned men agree that self-reliance is the greatest factor in the success of the individual and the success of the individual in the profession becomes that of the profession as a whole. Growth and progress are established and maintained by the constant practice of the inherent powers. Let the industries be well directed as wisely executed industry brings material commercial success and a justified pleasure in this true and noble calling in behalf of humanity, for which women are adapted.

The accuracy and deftness of woman's hand combined with clearness of eye and brain, and a wise and judicious employment of moments, hours, days and years must be fruitful. Though industry is a prime virtue, we surrender our claims to wisdom if we carry industry to the point of drudgery. Since her purpose is wise and just, the woman pharmacist will pursue her work to the end and resolve to win for herself the fortune to which she has aspired. Continuity of application to her prescription counter and a desire to give perfect satisfaction to her customers makes failure improbable. To have the privileges accorded to her, of practicing her chosen profession, creates in her a desire to become efficient in every department of the store.

From the human heart within comes good feeling, gratefulness and happiness and the maternal instinct to administer to the comfort and health of those who have solicited her professional skill. The scientific skill necessarily displayed in compounding a prescription brings a thrill of professional pride each time a package is sent upon its mission of relief to the suffering.

The successful pharmacist is diplomatic and possessed of a tactfulness that brings harmony in all business and professional relations; diplomacy with a sagacious cleverness in dealing with her customers that will adjust differences and win by peaceful means.

Energy gives emphasis to purpose and the woman who enters the profession must cultivate the inherent power of vigor, strength, business and professional activity. If we allow our energy to become dormant—latent—we are wasteful and foolishly extravagant, and the woman who has the privilege of practicing her chosen art will be ready at all times to perform the duties of any one of the varied departments of the modern pharmacy.

The result of thoroughness in the knowledge and duties of the various departments of the business is perfection. Be accurate in the balances at the prescription counter, in your statements of qualities in goods and sizes and amounts; your method of handling goods and in placing orders for same and selling them, remembering that accuracy, thoroughness and methodical administration creates prosperity and facilitates wise economy.

In the conduct of business, women constantly exercise a prudent and conservative management. Women are naturally economical and this quality especially fits them for the management of the average drug store. Economy does not mean to undergo privations and to save and hoard money; that is retarding business progress. The best economy is wise management, judicious buying and competent directing of the employees and general business of the pharmacy. Economy by the pharmacist increases money by investing it profitably, and demands a fair return incurring no needless waste; and demands that both the employer and the employed utilize their every business moment by profitable industry and by so doing save, that more money may be produced.

Owing to the peculiar relationship existing between the public and the pharmacist, it is essential that those in the profession be courteous, respectful, obliging, and dignified at work. These qualities usually predominate in women who aspire to enter the profession and those who possess them will find the open door to a successful career as a pharmacist.

The young woman about to select her vocation for life should be encouraged to enter the profession of pharmacy. She is endowed with the faculties that are capable of creating for her

a place requiring the superior qualities of character—thoroughness, refinement, methodical and economical business methods, scientific knowledge and accuracy in dispensing, cleanliness, and above all her aim to be a true woman—there is scarcely any limit to her possibilities for advancement and achievement.

Labor on then, my fellow pharmacists. Ours is a noble work, a glorious profession—one worthy of our best endeavors. Seek to make it a shining light among the professions, dispersing the darkness and illuminating all mankind with the true spirit of effort. Strive to make our professional duties a living force, permeating our social and business life with the grand principles of industry, economy, honesty, refinement, and scientific advancement. Thus it will be a real power for good in the world, for as we wield the pestle, we should be contributing in body, soul and spirit, to the upbuilding of one of the most desirable professions for women, and ennoble and advance the work of the pharmacist so that the young women who follow us may have the inheritance of our duties well done.

THE PRESIDENT: Mrs. Kenaston, does it meet with your approval to defer the discussion of your paper until later?

MRS. KENASTON: Certainly.

THE PRESIDENT: We have with us Dr. John Uri Lloyd, of Cincinnati, with whom you are all acquainted, and one whom the American Pharmaceutical Association delights to honor. He will give us a talk.

J. U. LLOYD: Ladies of the Women's Section of the American Pharmaceutical Association, I listened to the paper but I didn't hear it all, but it gave me some text to use. Now listen, young people, the first word that I caught when I came into the room, and I am sure the young lady looked at me when she used that word. She used the word "time" and then she was looking at me thinking about how much time some people had spent in the world, and then I was wondering whether I could take that as a text, and utilize a part of my time at this informal talk in relationship to the word time.

Now what do we mean by time? Did you ever think of that? I remember reading in my mother's album a phrase written by my father when he was a young man and mother was a young woman, in those Colonial days, and this was the phrase—I have never forgotten it:

"Circles are prized not as they abound
In largeness but the exactly round.
So life we prize that doth excel
Not in much time but the living well."

Now did you ever think about that? Why some of the greatest works that have been accomplished by men and women in this world have been accomplished by those who had not much time, as years are counted, but accomplished within a very short period, and made a record that would stand for all time.

But I have asked the question what is time? We count time by day and night and the encircling of the sun by the earth. That is the way we get our time. What does night amount to? Did you ever think, that nearly all of all that is brightness? Did you ever think that although we have one-half night and one-half day that the people on the surface of the earth are trying to turn night into the day in the universe? Take a ball and hold it before a great light and that ball gives a shadow that disappears at a point, and if you could get away from the earth, I opine, as the astronomers do when they theorize, you would not see the darkness at all. It would be simply a glowing ball, circling through space, and the one-half we call the darkness is simply a shadow close to the earth. And so it is as we go through life, the darkness of life is largely imaginative. If you look upon the brightness and contrast it therewith you find that there is so much light. Once in a while we become despondent, but when we struggle out from under the cloud we find that there is so much brightness that we had no right to be in darkness.

But listen; now what is time as we count time from the moving of the earth through space? What do we mean by time? As I sum it up, time is inexpressibly short. There is no such thing as time that is lengthened out. There is no such thing as time that is not created. There is no such a thing as time that is lost and gone. The living present is the momentary instant that we are here. There is no time to it. All that is past is gone. All that is ahead is uncreated.

How long is this instant of life? How long do we live in the time that is the instant of the passing along of life? As we look back, we look into something that is out of existence, gone. As we look forward, we look at something that is not yet created. All that is behind us has disappeared. All that is before us uncreated, and the instant, now, is it a second, is it a minute? What is the period of time that makes up the instant of the life as we pass along? No one can tell.

But we all live at once. But not in the same way, as no two of us ever saw the same moon, and no two in this room can look out and see the same object. So no two of us can utilize the same time that comes to all alike. The instant that we call time is free to the world and is utilized by the world, but no two of us utilize it alike. I stand here and look at the moon. Another person stands in New York and looks at the moon, and from a different angle we see different moons. By my side the person who looks at the moon sees a different moon from the moon that I am looking at, and the moon that each looks at is the something created, comparatively, in our minds. Ask your friend, whenever you care to try the experiment, when the moon is full and you go out and stand and look at the moon, a bright light, ask your friend how big does that moon seem to you? Ask two or three in a party and you will be surprised at the answer. Some will say big as a dime, others as a dollar, and to others still, it looks to be as large as a cart wheel.

Now why this difference? Why because of the fact that in their own minds they are comparing the moon with something they are thinking about. The man who holds the dime at arm's length will see a much smaller moon than the man who holds the dime close to his eye. The man who looks at the cart wheel, or the woman at the moon and thinks of a cart wheel will compare it with the cart wheel, and the one who looked at the dime in his mind will compare it with the dime, and it is a kind of mental comparison.

So life is largely a question of comparison, and, unfortunately, young people—and now I am coming to the young ladies and the older ladies too,—often you make comparison from the side of darkness, and then comes in envy and jealousy of some other person of whom, if you could know all that they know, you would be very far from being envious and certainly very far from dark.

Seemingly, some have all the brightness in life. Practically, if you could know everything that concerns them, they have the opposite. Give me the home, the Colonial home of the olden time with that spinning wheel that I used to, when I was a boy, see my mother use in the old home. Give me that home with that spinning wheel. Give me the simplicity of that home. Give me the pleasures and treasures that come to those who live in that home, and there are thousands in New England still to-day, and I would say to you, you can take your palaces and go, you may take all these honors that come in the line of the political arena, and all such as that. You may take your great hotels and go. They cannot give you in the way of pleasures what comes from a home like that.

I remember—and it does not seem very far back—don't you understand, young people, how easy it is to remember backward? You can't forget, try as you may, that which came into your life when you were a child. I remember when as a boy down in Kentucky, going barefoot in the by-paths of the woods, attending the little country school, everything as I look back exceedingly primitive, but we were very happy. We didn't know it, but we were happy in contrast with those out in the world, happy in contrast with whoever is to-day in a palace. The cares that come to these people in these positions are something that if they

could evade and get from under they would gladly, but this fashion that catches them, as the fire-flies about the candy, they can't extricate themselves and they suffer and imagine they are happy, and suffer in silence, and some of us envy them.

Get from under such as that. Do not for one moment believe that we who are here now in the primitive conditions of some parts of our country, which is the better condition of the people who live there, do not for one moment believe that when they extricate themselves they become happy. They become the reverse.

Why I am stopping here, because I had to. I tried to get into a little hotel. I seek always, when I go to a city, a small hotel. But they were filled and I had to go to this great palace down here, fifteen hundred rooms, a palace lacking everything that brings comfort and joy, pleasure and happiness, a palace inadequate when it comes to life, living well, a palace that will let you, if you stay here a few days and study the people, formulate some ideas of the people who are here. Now I say to you that I sized up some of them, and I guess they sized me up, but I sized some of them up, and I will tell you I know how some of them are living. They are working the year through economizing, scraping, saving, to come here and spend in a week or two weeks the money the year has put, a few cents at a time, into their pockets.

There are others who have made a pile of money, who are coming here to spend it looking for happiness, but the old man of the sea hangs over them. They can't get it and their money is of no use to them. Their money is a barren idolatry and the home that they are in, is no home. The life they are living is a failure. That is true of another side of those people. Now listen, young people; one of the lessons that I hope what I have said will bring to you,—and I think I have seen enough in going through life to say that this lesson is real—is, to beware of extravagance. The person that spends money beyond his income is miserable. The person who spends money up to his income, not knowing what may come, is miserable. The person who spends more money than he should spend for those things that could be bought cheaply, is doing wrong, and under those circumstances extravagance is the bane of society to-day, and by society I do not mean those who live in palaces alone. I commence at the bottom, if there be a bottom. I commence there and say the great trouble with the American people to-day, the great weight that is bringing the lines on their faces and the care on their brow, is due to extravagance, jealousy, and envy.

Those in the simple life are happy. Now listen, the simple life and the pleasant home must be made by the woman. The woman is the one who can do this, if she doesn't evade an opportunity. The woman who has the opportunity of making a home, even though it be of two rooms, like I remember down in Kentucky, can be a good one, and all about her life, brightness and happiness. But she who says nothing pleasant to anybody, does nothing to help anybody and cares nothing for the home, is in and is out in society night and day, and going to the great hotels and watering places of the North in the summer, and others in the winter in the South, she is the one that is setting the example that so many others follow to their destruction.

I thank you for giving me the opportunity of bringing to you these informal remarks. I would have made it more scientific from that paper, only I know you did not want science. This is not the place for science. This is the place for life, home, happiness, bright faces, and smiles. That is what you need here and that is what you women need to carry with you everywhere. That is what makes life bright, joyous and happy, and that is really what makes the home. Applause.

MRS. GODDING: Madam President, I would move a rising vote of thanks to Dr. Lloyd for his choice words of wise counsel to the Women's Section.

MRS. KENASTON: I second the motion.

(Motion put before the Section and passed with a unanimous rising vote.)

THE PRESIDENT: Are we ready for the discussion of the paper, "Pharmacy—

a Desirable Profession for Women?" I wish we might have a discussion on this paper. It was very excellent, and I am sure there is room for much discussion. We all enjoyed it, and I wish you would feel free to discuss the paper.

MISS COOPER: What I would say would be all on one side. I can not say anything on the other side of the question, so it would not do for me to discuss it. Being a pharmacist myself I heartily agree with everything that Mrs. Kenaston said.

MRS. GODDING: It is only a particle, but I would say that in the experience of Mr. Godding, he has found that the young women, who come in the store to learn the business, were far superior to many of the young men. For the woman, there are more disadvantages in gaining her experience, and we found that those young women, the few we have employed and given the opportunity for experience, were really ahead of many of the young men in their capabilities and in passing the Board.

THE PRESIDENT: Mrs. Godding, what is your idea about having a woman in every pharmacy?

MRS. GODDING: Why, I believe in it. I believe that it is the splendid opportunity for women. It is not an overcrowded vocation or profession but of course there are a great many obstacles in the way, but those obstacles I think the Women's Section is pledged to do all they can to obviate.

THE PRESIDENT: I mean, Mrs. Godding, from the employer's point of view, can he well afford to get along without a woman in his pharmacy if he has a large pharmacy; is not she almost a necessity?

MRS. GODDING: I think she is, but the pharmacist is not always able to arrange it satisfactorily.

MRS. KENASTON: In furthering the argument relative to young women taking up the profession of pharmacy, it might be well to mention something of the comparative salary that could be expected. In the central states, the only portion of our country with which I am familiar with salaries, the woman pharmacist commands a salary of from seventy to a hundred dollars, and a few a hundred and five and ten dollars per month. The president of our Board of Pharmacy was present at this meeting but went away, I believe yesterday evening, and he mentioned the fact that in South Dakota each one of the leading stores was making an effort to have at least one registered woman pharmacist in the store, but as to the salaries I did not think of asking him. He mentioned further that in his experience on the Board of Pharmacy that the higher averages and stronger examination papers were handed in from the young women who had taken the examination, hence the argument in favor of salary would be in favor of women.

THE PRESIDENT: Mrs. Bruce Philip, of California, has sent a paper which has failed to arrive. I will, however, read the title: "The Druggist's Wife Before and After?" We are very sorry that this paper did not get to us.

Is there any new or unfinished business? If not, we will have a piano solo, "Poem, MacDowell," by Miss Martin.

(Piano solo was rendered by Miss Martin.)

THE PRESIDENT: This closes our session, and I want to take this opportunity

to again thank everyone who has assisted at these meetings and I hope to meet you all again.

MRS. KENASTON: Madam President, inasmuch as this section has been deprived of the benefit of the paper written by Mrs. Philip, which paper was intended for our benefit, I move you that this Section empower the Secretary, when this paper reaches her, to include it in our printed proceedings, so that we may have the benefit of the paper by perusal.

(This motion was seconded, put before the Section and carried.)

On motion duly made, seconded and carried the meeting then adjourned.

RESULTS OF THE REFERENDUM VOTE ON THE YEAR BOOK.

At the Atlantic City (1916) meeting of the Association, the Committee on Publication stated in its report that there was a division of opinion among the members of the Association regarding the future issuance of the Year Book, and recommended that a statement of the facts of the case be mailed to the membership in November (1916) with the official ballot, and each member be requested to express by vote his or her preference. The recommendation was adopted and the ballots distributed.

The following report is submitted:

"Met Thursday afternoon, December 14, 1916, and canvassed the vote cast on the proposed plans for the Year Book.

The count is as follows:

1—Do you favor the discontinuance of the publication of the annual volume known as the Year Book?

Yes—235.

No—398.

2—Do you favor the continuance of the publication of the Year Book as heretofore and an increase in the annual dues?

Yes—196.

No—368.

3—Do you favor the publication of the Year Book on a subscription basis, the price for the same to be fixed by the Council?

Yes—283.

No—276.

4—Do you favor the issuance of the abstracts, constituting the Report on the Progress of Pharmacy, in the form of installments in the JOURNAL?

Yes—259.

No—235.

5—Do you prefer that these abstracts be published in monthly installments in the JOURNAL?

Yes—210.

No—255.

6—Do you prefer that these abstracts shall be published as quarterly supplements to the JOURNAL?

Yes—87.

No—345.

7—Do you prefer that these abstracts shall be published as semi-annual supplements to the JOURNAL?

Yes—79.

No—349.

Respectfully submitted,

A. D. THORBURN,

FRANCIS E. BIBBINS,

Board of Canvassers."

(Signed), EDWARD W. STUCKY,
FRANK H. CARTER.

The above vote is not as conclusive as it might be, because some of the members voted on only one query and some on all, and only about 25 percent of the total membership voted. The returns, however, as far as they go, indicate that the voters wish the publication of the Year Book continued as heretofore, and with no increase of annual dues.

With these opinions in mind, the Committee on Publication will continue its endeavors to solve the knotty financial problem with which they are confronted, and entertain the hope that they will be able to report a successful solution at the Indianapolis meeting of the Association.

Respectfully submitted,

J. W. ENGLAND, *Chairman.*

THE HOUSE OF DELEGATES, AMERICAN PHARMACEUTICAL ASSOCIATION

MINUTES FIRST SESSION.

The first session of the House of Delegates of the American Pharmaceutical Association was called to order in Hotel Chalfonte, Atlantic City, September 5, 1916, 4.25 P.M., by Chairman H. P. Hynson.

THE CHAIRMAN: There is, I believe, upon you a very great responsibility in regard to this House of Delegates. If it is to be something somebody must take interest in it and push it forward. If it is to be nothing we ought to decide that it should not exist, and put it out of existence. I have prepared a report which I am willing to read to you, which will be my swan song on the subject, because I have been writing and talking on it for quite a while, and I am not only tired but I think I have worn out the patience of everybody connected with it. If, however, I can impress three or four in this audience with my views, with what I think may be done with the organizations of pharmacists, I shall be very happy to retire. Let me have your attention for a little while.

(Chairman Hynson then read his address, which is printed in full in the September 1916 issue of the JOURNAL, page 948.)

THE CHAIRMAN: The Secretary has been good enough to prepare a paper on "Plans of Organization," which he will now present.

SECRETARY HOSTMANN: The plans of reorganization, as I understand them, affect everything that we may discuss about the House of Delegates. I am sure that everybody, who has given any consideration to the House at all for the past three years, agrees that something must be done with it. I have not confined myself to personal views in this paper, but have tried to get the various points in such shape and form as may be profitably discussed and given thought, by those who wish to do so.

(SECRETARY'S ADDRESS.)

PLANS FOR THE REORGANIZATION OF THE HOUSE OF DELEGATES.

BY JEANNOT HOSTMANN.

Practically ever since the creation of the House of Delegates by resolution of the Council, August 19, 1912 (J. A. PH. A., I, 928), a continual discussion has been carried on concerning its personnel, and the question whether it was or ever could or would be of any value; whether it could or would fulfill any or all of the functions the proposers of the resolution that brought it forth had in mind.

Before taking up any plans for the reorganization of the House we should devote a short time to its history. The following resolution presented by Dr. J. H. Beal at the Denver meeting held in 1912, was adopted by the Council August 19, 1912 (J. A. PH. A., I, 928):

(1) There is hereby created a House of Delegates to have and exercise such functions as are herein or may be hereafter specified by the Council.

(2) Until the membership of the House of Delegates shall be otherwise determined by the Council, it shall consist of such regularly elected or appointed delegates from state and local pharmaceutical societies, colleges and schools of pharmacy and delegates from the National Association of Retail Druggists, National Wholesale Druggists' Association, American Medical Association, National Association of Boards of Pharmacy, Woman's Organization of the National Association of Retail Druggists, National Association of Manufacturers of Pharmaceutical Products, American Chemical Society, Association of National and State Food and Dairy De-

partments, the National Association of Pharmacologists, Pharmacists in Departments of U. S. Government Service, and the A. O. A. C., the credentials of all of whom shall be approved by the Council, and five members of the Council appointed by the Chairman of the Council. The President, President-elect, Treasurer, General Secretary, and the Chairman and Secretary of the Council shall be members *ex-officio*.

(3) The elected or appointed delegates shall hold office for one year, or until the credentials of their successors shall have been approved by the Council. Each society or institution recognized shall be entitled to three delegates, and each delegate shall be entitled to one vote. No delegate shall act as proxy of another delegate not present, nor as delegate for more than one society or institution. Any member of the Association may attend any session of the House of Delegates, and shall have the privilege of the floor.

(4) The House of Delegates shall organize annually by the election of a Chairman, two Vice-Chairmen and a Secretary. For the purpose of such annual organization the first session of the House shall be called to order by the Chairman, one of the Vice-Chairmen or the Secretary of the preceding House, or in the absence of all of them, by the Secretary of the Council.

(5) The House of Delegates shall have authority to adopt all rules and regulations necessary to the proper conduct of its business, and not inconsistent with the Constitution and By-Laws of the Council.

(6) The House of Delegates shall hold at least one session during the annual meeting of the Association, at an hour previously determined by the Council, and such additional sessions as may be necessary for the transaction of its business, but shall make a final report of business transacted to the final session of the out-going Council at each annual meeting.

(7) Until otherwise determined, the House of Delegates shall exercise the following functions:

(a) To receive and consider the reports of delegates from the bodies which they represent in the House of Delegates.

(b) To consider and report upon such resolutions, and such other subjects as shall be referred to the House of Delegates by the Council or by the Association in General Session.

(c) To act as a general committee on resolutions and to report to the Council not later than its last session a series of resolutions upon topics concerning the general welfare of the Association or concerning any features of the Association's work.

(8) Until otherwise provided, the order of business at the first session of the annual meeting of the House of Delegates shall be as follows:

(a) Calling the roll of delegates whose credentials have been approved by the Council.

(b) The election of Officers.

(c) The appointment by the Chair of a sub-committee on resolutions to prepare and put into proper form resolutions for subsequent consideration by the House of Delegates.

(d) The reading of communications from the Council or from the Association in general session.

(e) Calling the roll of delegations for the reception of reports, resolutions and communications. At all subsequent sessions of each annual meeting the order of business shall be such as the House of Delegates shall determine.

(9) At its first annual meeting the House of Delegates shall consider and report to the Council a body of by-laws and any recommendations it may have to offer concerning the form of organization, method of working, or concerning the scope and character of the functions which should be exercised by the said House of Delegates.

The introduction of the resolution caused spirited discussion as to the powers and functions of the proposed body as well as to possible interference by it with the business of the Council and the General Sessions.

Joseph W. Englund, in a paper read before the Philadelphia Branch (J. A. PH. A., I, 1287), explains in detail the formation, powers, functions, etc., of the newly created body, with which most of us are now familiar. Some few sentences, I think, might well be repeated at this time.

"It was created by resolution and not by by-law. Its functions are distinctly limited; it may become an important factor in the work of the Association and be given greater powers, or it may fail to meet the needs of the Association and be abolished. * * * It should be noted that the House of Delegates can exercise only such functions as have been specified, or may

be hereafter specified, by the Council. It can either initiate resolutions, or it can consider and redraft those referred to it by the Association, Sections, or Council. It is in effect, a clearing house to which resolutions can be referred and proposals moulded into shape for consideration by the Council—which still remains the executive body of the Association—and which in turn reports to the general assembly. In this way questions can be fully discussed before the House of Delegates, both by delegates and members, and the business of the Association expedited."

This idea of the House simply serving as a "clearing house" seems up to now to have been the main excuse for its existence.

At the Nashville meeting quite a few resolutions were referred to the House by the General Session and the Sections and after action thereon by the House were referred back to the Council or General Sessions for final action. At the Detroit meeting little of real value was accomplished and still less, if I am informed rightly, at San Francisco.

The "clearing house" idea has been tried out. It has failed. If the House of Delegates is simply to act as a sort of a "sanctified powerless committee on resolutions," then, I think, it ought to be abolished.

If it is to be continued then it should be given entirely different functions, and these latter should be clearly defined. Personally I believe that the House of Delegates should be continued and that it should become the legislative department of the Association—the Council becoming solely executive.

If this plan be adopted, then the other point to be considered is that of representation. Several plans for the reorganization that have been suggested are herewith given in abstract for your consideration and discussion.

First: The plan suggested by our chairman to change the basis of representation by limiting same to delegates chosen by State Pharmaceutical Associations—such delegates perforce being members of the A. Ph. A.—has been published in the *JOURNAL A. PH. A.*, IV, 524, and V, 8. Independence from the Council is suggested but the functions appear to remain as at present.

Second: On page 496 of the *Druggists' Circular* for August 1915 we find as follows:

We believe that the organization of the House of Delegates as an important legislative body in the Association is an imperative need, and so far we heartily agree with Dr. Hynson's proposition; but when it comes to the question of the personnel of the "House," we are not in accord with his plan to limit its membership to delegates from the government service, from other national bodies and from the State pharmaceutical associations, believing that the present broad allotment of delegates is much more democratic and yet is sufficiently limited geographically to prevent one section from outvoting all of the other parts of the country.

We hope, therefore, that the representation in the House of Delegates will continue to include all interested affiliated bodies, including local branches of the Association, colleges and boards of pharmacy. Whether both a college and its alumni association should be given representation we are not certain, but the broader the basis of representation the more truly national will be the results of the votes taken.

We feel that the present plan of using the House of Delegates merely as "a place to let off steam," as some one expressed it, or as an unofficial resolution committee is a mistake; but we hope that the Association will not, because of this initial error, perpetrate the greatest error that has been threatened of abolishing the House entirely.

Third: The plan outlined by President William C. Alpers in his presidential address. This plan recommends changes that are practically revolutionary and agree with those suggested by me above. If the recommendations be accepted, the House will become the dog and the Council the tail—thus completely reversing the present status of the two bodies. Representation will remain practically as at present with the exception that colleges and their alumni associations will have no special representation.

Limitation of time and space prevent the citing of many valuable suggestions that have been made by members who have given this subject earnest thought. For the benefit and convenience of those interested a list of references is appended.

In closing I would say, that if the House of Delegates is to remain with us, then much constructive work is needed to whip it into shape. It will take much time and work and thought. I join with our chairman in asking you to read and study the opinions expressed by many of our active members. Let us have your own. You owe this to your association.

To bring this matter properly before the House of Delegates two resolutions will be presented at the proper time: One, that it is the sense of the House of Delegates that an amendment to the Constitution be drawn up and presented to the Council or General Session at this meeting making the House of Delegates the Legislative Body and the Council the Executive Body of the Association. Two, that a committee be appointed to draw up such an amendment or amendments and to report on recommendations as to the personnel of the reorganized body.

REFERENCES:

- Resolutions Creating a House of Delegates*—J. A. PH. A., I, 928, Sept. 1912.
Minutes of the Third General Session, 60th Annual Meeting—J. A. PH. A., I, 1079, October 1912.
The New House of Delegates, Joseph W. England—J. A. PH. A., I, 1287, Nov. 1912.
Proceedings of the House of Delegates, 62d Annual Meeting—J. A. PH. A., III, 1403, October 1914.
The House of Delegates, Henry P. Hynson—J. A. PH. A., IV, 524, April '15.
The House of Delegates, Additional Information, Henry P. Hynson—J. A. PH. A., IV, 844, July 1915. (This includes opinions and suggestions by Messrs. Beal, England, Kremers, Wulling, Koch, Mittelbach, Sayre, Stewart, Nitardy, LaWall, Woodruff, Jordan, Day.)
Report of the Committee of the Council in the House of Delegates, George M. Beringer, Chairman—J. A. PH. A., IV, 1252, October 1915.
Report of the Special Committee on House of Delegates—J. A. PH. A., V, 8, January 1916. (This includes minority and majority report of the committee as well as reasons for same by Messrs. Hynson, Freericks, Anderson and Lemberger.)

THE CHAIRMAN: Gentlemen, it was ordered at San Francisco that a committee be appointed to take into consideration the House of Delegates, its welfare and future. I had so much difficulty in getting anyone to serve on that committee that I thought it would be a good plan to let the officers constitute that committee. I have voiced my feelings, Mr. Hostmann has voiced his and there is a paper by Mr. Nitardy, the vice-chairman. I apprehend that you will appoint a committee to consider these contributions, and I think Mr. Nitardy would be satisfied if we refer his paper to that committee, and therefore I will not insist on that part of the program being carried out unless someone here would like to read the paper. I believe it would be more interesting, just at this time, for those who have been impressed by what has been said to enter a discussion of this subject. I think, Mr. Hostmann, if you will present the resolutions you have prepared we might come to some conclusion in regard to the welfare of the House of Delegates. Personally I can not help thinking that delegates with unequal power and representing different interests will be hard to reconcile. I am perfectly willing, however, to submit to the majority of this body. I think Dr. Rusby has some ideas regarding the House of Delegates.

H. H. RUSBY: Mr. Chairman, I do not think I have any very definite ideas because I have never gone into a study of this question, but I certainly do approve of separating executive and legislative functions. I do not believe it is right for the Council of the Association to engage in both legislation and execution; that part of these reports I should heartily approve.

H. V. ARNY: Mr. Chairman, do I understand the recommendations in the Secretary's report are, that steps should be taken to revise the constitution? If the constitution is to be amended that means, I believe, a year, does it not?

J. H. BEAL: I think it does.

H. V. ARNY: What I had in mind was, whether we could, without difficulty, recommend that steps be taken which would mean a year's postponement, at least. I think the Chairman has in mind the authorizing of the appointment

of a committee to consider this exceedingly knotty problem. Therefore, to open the discussion on the matter, I move it is the sense of this House of Delegates that such a committee be appointed.

THE CHAIRMAN: That a committee be appointed to present suitable amendments to the Constitution and By-Laws?

H. V. ARNY: Yes, that is the idea. We realize this is an exceedingly serious step and should not be taken without careful consideration by a proper committee. Therefore I make that as a motion. It is a question whether the House of Delegates has authority enough to appoint its own committee? Have we, or do we have to get the authority of the Council?

THE CHAIRMAN: I think we have that; we will take it anyhow.

H. V. ARNY: I wanted to be right on that point. I merely move the House of Delegates appoint a committee or, it is the sense of this meeting that we appoint a committee, to study this subject.

N. P. HANSEN: I believe in that motion. We should have a legislative body such as is contemplated. I therefore second the motion.

THE CHAIRMAN: Dr. Arny, do I understand that you make a motion that it is the sense of this House of Delegates that the House of Delegates shall be the legislative body of the American Pharmaceutical Association?

H. V. ARNY: I did not go that far. I went only so far as to say that this House should appoint a committee to study the suggestions made by the Secretary, which represent a part of your committee report, on the question of the possibility of making this House of Delegates a legislative body. Personally, I do not know whether I want to go on record at present as recommending it or not. I meant it would be much better for us to depend upon our committee to formulate the plan or think the matter over and thresh it out.

THE CHAIRMAN: And report at the next meeting?

H. V. ARNY: And report at the next meeting, yes.

THE CHAIRMAN: How many shall constitute such committee?

H. V. ARNY: Five.

THE CHAIRMAN: Mr. Hansen, I understand you seconded that motion?

MR. HANSEN: I did, sir.

THE CHAIRMAN: Gentlemen, it has been moved and seconded that the House of Delegates elect a committee of five to consider the recommendations made by Secretary Hostmann and report at the next meeting, to-morrow afternoon at four o'clock.

H. H. RUSBY: In reference to that motion, Mr. Chairman, I understand that the Secretary's paper makes several recommendations. Should we act on all those recommendations? In other words, why not include in Professor Arny's motion that the committee take up all these recommendations and report at the next meeting?

H. V. ARNY: That is exactly what I meant. I would prefer to make this a committee on president's address, and that these reports be considered by the committee.

H. H. RUSBY: That would cover everything.

SECRETARY HOSTMANN: That committee ought not to report to-morrow. I think it would need a little more time than it could have before the next meeting.

THE CHAIRMAN: Report Friday?

THE SECRETARY: It might be able to report Friday, but I think if it were called upon to report to-morrow the subject would not be given one-half the time that it deserves.

THE CHAIRMAN: Shall we make it Friday at eleven o'clock? That is the set time for the third session. We want to arouse interest. The best way to help the committee is for somebody to say something on the subject; let us have a discussion. Dr. Beal, have you anything to say? You are the father of the House of Delegates and I believe you ought to take charge of it.

J. H. BEAL: Mr. Chairman, I want to say in the first place that I believe myself very much in accord with the sentiments expressed in the paper which the Secretary has read. Unfortunately I did not get the whole of it. I would like to call your attention to some of the facts connected with the organization of the House which did not appear in the paper. What was read to you as the original motion offered for the creation of the House was not the original motion. It was the motion, or it was what existed after the Council had acted and after the general session had acted and after the newly constituted House of Delegates had acted and made recommendations, which were incorporated in that motion. Like any human institution which grows, it didn't grow symmetrically and consistently. There were some inconsistencies. Now, for example, you must have noted that apparently the House of Delegates is an appendage with limited powers as compared to the Council. There is a reason for that. When the proposition of creating a House of Delegates was broached and was talked over generally among the members of the Association, those who were in favor of it were confronted all the time by this proposition, if you create this body and do not restrict it, it will run away with the Association; it will commit the Association, or possibly might commit the Association to a great many things that would be out of keeping with its traditions. It will overturn things generally. Therefore the inclusion of the reference of these acts to the Council was for the purpose of meeting that objection. I did not, but others did feel there was a danger. That restriction was then accepted by the sponsors of the House of Delegates, not because they believed it should be done, but as a concession to those who feared a great danger might result. I have always felt from the very first meeting, that it is wrong to have the resolutions of this body, selected as it is and constituted as it is, to go before the Council. The Council would cheerfully be relieved of that responsibility, if I understand the sentiments of those with whom I have conversed. The number of bodies which are represented in the constitution of this body were not provided for in the original motion. They were added to and added to, very largely at the suggestion or on the suggestion of the House of Delegates.

The House of Delegates, speaking frankly, is not what I think it ought to be. If it can not be made a more effective agency in the American Pharmaceutical Association and in the work of American pharmacy it might just as well be abolished. At the time I offered the motion for its establishment, I stated that it was considered merely as a germ of an idea which we hoped might grow into something strong and vigorous and truly representative of pharmacy, an effective instrument for good in the hands of the Association. At this time I would not undertake to formulate all of the ideas I have in view or in my mind, flowing around in a rather

chaotic condition, but I think the House of Delegates should be emancipated from the Council. It was stated at the time of inception, that we hoped the House of Delegates would become emancipated as soon as it could demonstrate the fact it was not a vision. I think the time has come to ask that the House of Delegates be emancipated from its tutelage to the Council; the membership should be limited.

I am not ready to go as far as Chairman Hynson has intimated, but I am inclined to meet him half way. I think we should avoid the duplication of representation as we now have it, and I heartily believe in the general proposition that the House of Delegates should become a legislative body of really important functions. I would not go so far as to say that at one time we should take away all of the legislative power of the Council, or that we should usurp the absolute legislative power of the Association, but I would materially enlarge the legislative powers of this body and make it subject, if subject to anybody, only to the Association. I believe that is all I am able to state in this off-hand manner.

H. V. ARNY: While Dr. Beal is on his feet, I should like his opinion as to whether a committee such as is to be appointed could intelligently report by Friday.

J. H. BEAL: Well, if you were to put Chairman Hynson, Secretary Hostmann and several others who have studied this matter constantly and carefully on the committee, I think they could make a pretty intelligent report by Friday. I do not anticipate that they could exhaust the subject; they would have plenty of unfinished business for next year, but I do really think that they could make a strong helpful report by Friday.

SECRETARY HOSTMANN: Mr. Chairman, one of the ideas I had in presenting these resolutions, which I intended to present at the last session of the House, was, that if this House recommended that the Constitution be amended next year—of course we could not amend it this year—it would take a year's time—I felt it would attract more interest and lead to more discussion than we have gotten in the past. Every year you hear about the House of Delegates, "no good," "ought to be abolished," "something ought to be done with it," but that is as far as we get. We are no further to-day than we were three years ago, and my idea in presenting these two resolutions at a later time was, that a committee appointed for some such purpose would report these resolutions and present them to the House, the House would accept them and recommend them to the Association. Now if the Council sees fit to reject them, or if the Association in general session sees fit to reject them it does not make much difference. The discussion is going on and would be much more interesting and more members would take an interest in it than are here now. At the present I do not believe anybody takes an interest in the House of Delegates unless he is stirred up by someone.

One of the references that I have made is to a paper that appeared in the JOURNAL, where not only the opinion of Chairman Hynson appeared but opinions were expressed by quite a few active members of the Association, in letters that were written to Chairman Hynson, in reply to letters sent out by him. It was very kind of Dr. Beal to say that because he, himself, and Dr. Hynson and I, perhaps, have given this a little more thought than some of the other members, we might be able, if you did see fit to put us on that committee, to make an intelligent report. But that report would not be what I had in mind when I was

drawing up these resolutions. My idea was, that we would have a committee that would do some real work and report next year.

J. H. BEAL: Mr. Chairman, just one other thought. While it would not be possible to amend the Constitution, it seems to me that the House of Delegates could be very properly provided for in the By-Laws of the Association, and if later on it seemed important to make it a part of the Constitution instead of the By-Laws, that could be done at leisure.

H. H. RUSBY: Mr. Chairman, I think it might be well for the Secretary to read to us these two resolutions of which he has spoken and then we could refer them to this committee. They have not come before us yet, so we can not very well refer them.

SECRETARY HOSTMANN: I have not drawn the resolutions up, but I think I can express the sense of the resolutions I propose offering.

THE CHAIRMAN: You had better let me put this motion in regard to the appointment of a committee and then they can refer anything to that committee that they see fit. It has been moved and seconded that a committee be elected.

SECRETARY HOSTMANN: That motion read appointed and not elected.

H. H. RUSBY: Mr. Chairman, I want to make an amendment that you act as the chairman of that committee.

H. V. ARNY: I heartily accept that amendment.

THE CHAIRMAN: And appoint four other members?

(The motion was put and carried.)

The following members were named on the committee: Chairman, H. P. Hynson, H. H. Rusby, Jeannot Hostmann, Leonard Seltzer and N. P. Hansen.

THE CHAIRMAN: Now, gentlemen, what else can we do this afternoon? We had better appoint a committee on credentials. If we are going to make a serious thing of this, we want the delegates properly authenticated. Will someone move that a committee on credentials be appointed?

N. P. HANSEN: Mr. Chairman, I move that a committee on credentials be appointed, of three members.

(This motion was duly seconded, put before the House and carried.)

THE CHAIRMAN: I appoint as the Committee on Credentials: Joseph Weinstein, R. S. Lehman, and Otto F. Claus.

N. P. HANSEN: I move we adjourn until to-morrow at four o'clock.

(This motion was duly seconded, put before the House and carried.)

VICE-PRESIDENT'S ADDRESS.

THE FUTURE OF THE HOUSE OF DELEGATES.

BY F. W. NITARDY.

This paper has been written at the specific request of our able chairman, Dr. Hynson. I tried to persuade him that any effort on my part for the re-organization of the House of Delegates would be superfluous in view of his own convincing arguments, but Dr. Hynson informed me that he had his mind set on carrying out a program in which I as vice-chairman was slated for an address under the above title, so there was nothing left to do but comply with the wishes of our esteemed friend.

Before approaching the subject proper let me speak for just a moment on the past activities of the House of Delegates. I believe that I have attended all its meetings up to the present and it seems to me there has existed in the minds of most of the delegates a rather confused idea as to its actual purpose. Its meetings have been poorly attended and have accomplished little outside of acting as a sort of a resolution committee, receiving resolutions and turning them over to the General Session for action.

That the House of Delegates under proper organization and with definite functions has before it a future of valuable service to pharmacy will be readily admitted. Our friend, Dr. Hynson, has told us several times of the excellent organization of pharmacy in its various branches and also stated that there was little further need for organization except in coördinating the various branches so that they might work with greater harmony and efficiency and herein, I believe, lies the future of the House of Delegates.

There exists at present in practically every State of the Union a powerful and efficient pan-pharmic organization generally known as State Associations. These bodies are working along on individual lines and are not definitely coördinated with each other or affiliated with a national body of similar catholic membership to-day. True, some of these associations send delegates to the meetings of other association but at present this exchange of delegates is more or less of a social courtesy and of very little practical value. Great things could be accomplished to the benefit of every state association as well as the American Pharmaceutical Association, if these state bodies could be coördinated and affiliated with our national body in a manner that will insure active coöperation and mutual support and it is in this capacity that the House of Delegates can become a factor in American pharmacy and I shall speak of the future of the House of Delegates with this condition in view.

The House of Delegates would then form a connecting link between the various state associations and the American Pharmaceutical Association and be an organization in which the state association delegates could exchange ideas of interest to their respective organizations as well as a body in which such local or state work worthy of assuming national scope may take definite form. Its sessions would be the place in which papers of particular value to state organizations would be read and discussed. The American Pharmaceutical Association would, in the event of being confronted with problems affecting the entire country, but which could not be solved successfully without the active support and aid of the state associations, find in this body a useful agency for enlisting their active coöperation and in turn, state associations endeavoring to bring about greater uniformity in pharmaceutical laws and practices could through the House of Delegates impart their ideas to the national body and to other state associations in the most effective manner.

There is so much work of this character to be done and so much good that could be accomplished, that the sessions of the House of Delegates would prove of exceptional interest and be well attended because they would represent a definite phase in the development of pharmacy and yield definite results. The close analogy of such linking of state and national bodies to the Federal and State government and identical geographical distribution and representation would make it particularly valuable in many ways. Its membership should be composed entirely of accredited delegates from state associations. These delegates should be members of the American Pharmaceutical Association or at least become members when attending the convention as delegates. Its relation to the American Pharmaceutical Association should be similar to that of the Sections. It should have its own constitution and by-laws, and have definite powers. Its decisions in matters affecting the particular scope on which its activities are concentrated should be final and require no further sanction of the Council or the General Session. But it should also have the right to refer certain issues affecting the national body or its policies to the Council or General Sessions for action. It should be given a definite yearly appropriation to meet its expenses and might possibly have representation in the Council. It should have the power to appoint committees to carry on the various phases of its work and its sessions should be given equal space on the program with those of the Sections.

Under such conditions its future would be assured and its activities would be a valuable asset of pharmacy in general and the various state associations and the American Pharmaceutical Association in special. It would form a powerful and influential connecting link between the American Pharmaceutical Association and state associations, representing their combined influence and by coördinating the state associations make each a more powerful and influential body than it could otherwise be. Its support or opposition on questions of state and national interest would be a factor, bound to be recognized by politicians, legislators and outside interests. It would represent an influential membership of the combined total of all state associations and the American Pharmaceutical Association, which is indeed an imposing strength.

To represent a state organization in a body of this kind would certainly be an honor and privilege worthy of the efforts of the greatest men in pharmacy to-day.

PHARMACEUTICAL FORMULAS

PROPOSED FOR A. PH. A. RECIPE BOOK.

A complete list of these Proposed Formulas since February 1912 was published in an Index in the December 1916 number of the JOURNAL. The Committee will continue its work in monthly instalments in this Department of the JOURNAL. Members of the A. Ph. A. are earnestly requested to send suitable formulas and also criticisms of those published to the Chairman, Otto Raubenheimer, Brooklyn, N. Y.

PHOTOGRAPHIC FORMULAS.

It has been decided to have a Chapter on this important subject in the A. Ph. A. Recipe Book. The increasing value of a knowledge of practical photography makes it necessary that pharmacists should become more familiar with the technical details. Very frequently they are called upon to prepare various photographic solutions or to give advice on this subject. Many pharmacists in the city and country are deriving a handsome profit from such knowledge and also from the sale of photographic accessories.

The following introductory chapter is borrowed from *MacEwan's Pharmaceutical Formulas* for the purpose of making the pharmacist acquainted with the history and chemical composition of the newer photographic developers.

DEVELOPERS.

In compounding developers the main things to keep in mind are to use distilled water and take great care that organic matter does not come in contact with the reducing-agent. If the solution containing the developing-agent must be filtered, asbestos or glass wool should be employed as the filtering-agent.

The following short notes on the various developing-agents in use are arranged in chronological order, and will no doubt be of interest.

Pyrogallie Acid, or Pyrogallol.—First employed for developing gelatinobromide plates by Dr. Maddox in 1871, and still the favorite with most workers in photography. The average quantity of "pyro" used to each ounce of water for a developer is $1\frac{1}{2}$ grains, with ammonia water, sp. gr. 0.88 (rarely now) or sodium carbonate 24 grains, and sodium sulphite 24 grains. Representative formulas are given later.

Ferrous Oxalate.—Introduced as a developer by Carey Lea in 1877, but the solution now in use was suggested by Eder in 1879.

Hydroquinone, or Quinol.—Discovered to have developing-powers by Sir William Abney in 1880. Is a favorite developing-agent with amateurs. Works best when used with potassium carbonate or hydroxide, but sodium carbonate or tri-sodium phosphate as the alkali gives softer negatives. The average composition of the developer is 3 grains quinol in each ounce, with potassium bromide $\frac{1}{2}$ grain, sodium sulphite 15 grains, and potassium hydroxide 4 grains.

Pyrocatechin, or Catechol, was found by Eder and Toth in 1880 to have developing-power. The solution does not discolor so readily as quinol. With sodium hyposulphite it has been recommended for use in cases where it is desired simultaneously to develop and fix negatives. "Kachin" is the trade-name for a mixture of catechol, potassium hydroxide, and sodium sulphite.

Eikonogen, the sodium salt of amido-beta-naphthol sulphonic acid, was discovered by Professor Meldola in 1880, and found by Andresen in 1889 to possess developing-power. The salt is best dissolved in hot water. The proportions for each ounce of developer are eikonogen 9 grains, sodium sulphite 35 grains, potassium carbonate 23 grains.

Metol.—Andresen's metol is methyl-para-amido-phenol; Hauff's metol is a homologue, methyl-para-amido-meta-cresol. The average quantity of metol in an ounce of developer is $2\frac{1}{2}$ grains, with potassium bromide $\frac{3}{4}$ grain, sodium sulphite 24 grains, and sodium carbonate 18 grains.

Para-amido-phenol, patented in 1891, is sent out as the hydrochloride. When exactly sufficient caustic alkali is added to convert the salt into a phenolate, the concentrated liquid is known as "rodinal." Rodinal requires to be diluted with from twenty to thirty times its bulk of water before use.

Glycin, or para-oxy-phenyl-glycin, is a slow developer, but most suited for line negatives in process-work, and for "stand" development.

Amidol, or diamido-phenol hydrochloride, was first made by Gauche in 1869, but patented as a developer in 1892. The developer should be freshly made by dissolving the amidol in solution of sodium sulphite. The average proportions are amidol $1\frac{1}{2}$ grains, sodium sulphite 48 grains, and potassium bromide $\frac{1}{2}$ to $1\frac{1}{2}$ grains in each ounce.

Diphenal, or di-amido-oxy-di-phenol, is made by Cassella & Co., Frankfort, as a liquid, and requires dilution with from fifteen to twenty times its volume of water for use.

Adurol is the chloro- or bromo- derivative of hydroquinone. The average composition of an ounce of adurol developer is adurol 4 grains, sodium sulphite 20 grains, potassium carbonate 24 grains, and potassium bromide $\frac{1}{4}$ grain.

Imogen Sulphite is eikonogen modified by the introduction of another amido group and mixed with sodium sulphite.

Edinol, the hydrochloride of para-amido-oxy-benzyl-alcohol, does not require the use of caustic alkali. Resembles metol in its action, but is more soluble.

WORKING FORMULAS FOR DEVELOPERS.

No. 426.

ADUROL DEVELOPER.

A.

Adurol.....	170 grains
Sodium Sulphite.....	$3\frac{1}{2}$ oz.
Water to.....	20 oz.

Dissolve.

B.

Potassium Carbonate.....	$2\frac{1}{2}$ oz.
Water to.....	20 oz.

Dissolve.

For use, mix in equal parts.

No. 426 A.

ADUROL DEVELOPER.

(One-solution.)

Adurol.....	1 oz.
Sodium Sulphite.....	3 oz.
Potassium Carbonate.....	6 oz.
Water to.....	20 oz.

Dissolve.

For use, dilute with 3 to 5 parts of water.

No. 426 B.

AMIDOL DEVELOPER.

Amidol.....	48 grains
Sodium Sulphite.....	$\frac{1}{2}$ oz.
Water to.....	20 oz.

Dissolve.

Contributed by Irwin A. Becker, Michael Reese Hospital, Chicago:

DEVELOPERS.

No. 426 C.

All-round M-Q Developer.

Water.....	100 mls
Metol.....	0.2 Gm.
Hydroquinone.....	0.15 Gm.
Sodium Sulphite, dry.....	2.25 Gm.
Sodium Carbonate, dry.....	3 Gm.

Use full strength for single coated plates. Add equal parts water for double coated plates. Good for commercial work, and lantern slides.

No. 427.

EXTREME CONTRAST DEVELOPER.

Where absolute black and white are desired.

Water.....	100 mls
Sodium Sulphite, dry.....	13 Gm.
Sodium Carbonate, dry.....	13 Gm.
Hydroquinone.....	2.25 Gm.
Potassium Bromide.....	0.35 Gm.

For use take equal parts of above and water. Develop 6 to 8 minutes at temperature of 70° F.

No. 428.

CONTRAST DEVELOPER

For Over-exposed Plates.

Water.....	100 mls
Sodium Sulphite, dry.....	3.35 Gm.
Edinol.....	0.67 Gm.
Potassium Bromide.....	0.135 Gm.
Potassium Carbonate.....	1.67 Gm.

As soon as the plate shows over-exposure in normal developer, rinse and place in contrast developer until it has sufficient intensity.

No. 429.

EXTREME SOFTNESS DEVELOPER.

Where strong contrasts in the subject are to be avoided.

Water.....	100 mls
Metol.....	0.034 Gm.
Sodium Sulphite, dry.....	0.67 Gm.
Hydroquinone.....	0.165 Gm.

Develop for about 30 minutes at temperature of 65° F. to 70° F.

No. 430.

PYRO-ACETONE.

A.

Water.....	100	mils
Oxalic Acid.....	0.156	Gm.
Pyrogallie Acid.....	6.25	Gm.

B.

Water.....	100	mils
Sodium Sulphite, dry.....	10	Gm.
Acetone, pure.....	20	mils

For Tray: A 10 mils; B 10 mils; Water 120 mils. For Double Coated Plates use Water 160 mils.

For Tank: A 10 mils; B 30 mils; Potassium Iodide Sol. (0.2 percent) 20 mils; Water 580 mils.

Temperature 70° F.; Time 30 minutes.

Note: The addition of the Potassium Iodide Solution allows the use of the tank developer from 70° to 75° F. without causing yellow stain or veiling which is liable to occur otherwise.

No. 431.

GLYCIN.

For Tank.

Hot Water.....	100	mils
Sodium Carbonate, dry.....	4	Gm.
Glycin.....	0.8	Gm.
Sodium Sulphite, dry.....	0.8	Gm.

For use: Stock Solution 450 mils; Water 4230 mils.

Temperature 65° F.; Time 30 minutes.

No. 431A

BROMIDE DEVELOPERS.

Developers for Bromide and other developing-out papers should be made according to the formulas furnished with each brand or kind of paper, as recommended by the manufacturers.

X-RAY DEVELOPERS.

The temperature should range from 65 to 72° F. If warmer, the developer may cause chemical fog or unsatisfactory plates, due to fast development.

No. 432.

DR. WILLEY'S FORMULA.

A.

Boiling Distilled Water ...	100	mils
Sodium Sulphite, dry.....	17.72	Gm.
Edinol.....	2	Gm.
Hydroquinone.....	2.95	Gm.
Potassium Bromide.....	2.425	Gm.

B.

Water.....	100	mils
Potassium Carbonate.....	23.6	Gm.

Use: A 50 mils; B 50 mils; Water 100 mils.

No. 433.

GLYCIN-HYDROQUINONE.

A.

Water.....	100	mils
Glycin.....	1.477	Gm.
Hydroquinone.....	4.43	Gm.
Sodium Sulphite, dry.....	8.86	Gm.
Potassium Bromide.....	0.37	Gm.

B.

Water.....	100	mils
Potassium Carbonate.....	11.8	Gm.

For use take equal volumes of A and B.

No. 434.

METOL-HYDROQUINONE.

Water.....	100	mils
Metol.....	0.216	Gm.
Hydroquinone.....	0.864	Gm.
Sodium Sulphite, dry.....	4.725	Gm.
Sodium Carbonate, dry.....	4.725	Gm.
Potassium Bromide.....	0.108	Gm.

Develop 3 to 4 minutes.

FIXING SOLUTIONS.

No. 435.

ACID FIXING AND HARDENING BATH.

For Plates.

A.

Water.....	100	mils
Sodium Thiosulphate.....	25	Gm.

B.

Water.....	100	mils
Sodium Sulphite, dry.....	9	Gm.
Sulphuric Acid.....	1.5	mils
Powdered Chrome Alum.....	6	Gm.

or B. Alternative.

Water.....	100	mils
Potassium Metabisulphite.....	9	Gm.
Powdered Chrome Alum.....	6	Gm.

Mix solutions exactly and in rotation of ingredients. Always pour A into B while stirring well. If this is not done, precipitation will take place. During cold weather one-half the quantity of B is sufficient for full quantity of A.

No. 436.

ACID HYPO FIXING BATH.

For Developing-out Papers.

Water.....	100	mils
Hypo (Sodium Thiosulphate).....	25	Gm.
Water.....	7.5	mils
Sodium Sulphite, dry.....	1.5	Gm.
Acetic Acid(28 percent).....	4.5	mils
Powdered Alum.....	1.5	Gm.

No. 437.

PLAIN HYPO BATH.

Water.....	100	mils
Hypo.....	25	Gm.

No. 438.

IRON CLEARING SOLUTION.

Water.....	100	mils
Iron Sulphate (Clear Crystals)...	14.2	Gm.
Sulphuric Acid.....	5	mils
Powdered Alum.....	4.725	Gm.

To remove yellow stain by Pyro or Hydroquinone Developer, wash well to free from hypo and place in above *until stain is gone, then wash well.*

No. 439.

CHEMICAL FOG.

For Chemical Fog use Red Prussiate Reducer, using double quantity of water. As soon as fog is gone, wash well.

INTENSIFIERS.

No. 440.

INTENSIFIER.

For Extreme Intensification from Weak Negatives.

A.

Water.....	100	mils
Uranium Nitrate.....	8.84	Gm.
Nitric Acid.....	3.125	mils

B.

Water.....	100	mils
Potassium Ferricyanide (Red Prussiate).....	5.9	Gm.

To use—Take 10 mils of A; 10 mils of B, and water 320 mils.

No. 441.

MERCURY INTENSIFIER.

For Moderate Intensification.

Mercury Bichloride.....	2.15	Gm.
Potassium Bromide.....	2.15	Gm.
Water.....	100	mils

Have negative absolutely free from hypo, and soak in above till milky white, then blacken in a solution of

Sodium Sulphite.....	11.34	Gm.
Water.....	100	mils

Wash thoroughly.

No. 442.

CHROMIUM INTENSIFIER.

C. Welborne Piper.

Potassium Dichromate.....	2.15	Gm.
Hydrochloric Acid.....	1	mil
Water.....	100	mils

Bleach in this solution, wash until free from yellow stain, and re-develop with Amidol, or other non-staining developer. Prolonged washing after fixation is not necessary with this intensifier and the process may be repeated if greater intensification is required.

REDUCERS.

No. 443.

FARMER'S, H.

Attacks *thin* part of image first and *increases contrast.*

Hypo solution 1 in 5, add enough Potassium Ferricyanide solution to give a pale yellow color. Negatives must be thoroughly soaked in water before immersion in this solution. As soon as reduction has proceeded far enough plunge into water and wash thoroughly.

No. 444.

PERSULPHATE REDUCER.

For Negatives that are *too contrasty*, attacks *dense* portions *first.*

Ammonium Persulphate.....	3.5	Gm
Sulphuric Acid.....	2	drops
Water.....	100	mils

As soon as negative is sufficiently reduced, immerse in 5 percent Sodium Sulphite, then wash.

No. 445.

COLOR-SENSITISERS.

For Plates.

Non-color sensitive plates are made sensitive to the entire spectrum by bathing in the following solution:

Pinacyanol (stock solution).....	2	parts
Pinachrome (stock solution).....	3	parts
Distilled Water.....	50	parts

The stock solutions contain 1 part dye in 1000 of Alcohol. They keep well. The dilute solutions do not keep, and should be mixed immediately before use, and not used more than twice.

Bathing is carried out the same way as development, either in dish or tank, in complete darkness, or the light of a panchromatic safe-light. In dish—Immerse plates for 3 minutes, rocking continuously. In tank—Dilute the above 20 times and leave plates in 20 minutes, reversing tank once or twice. Wash plates in running water for 5 minutes and place on rack to dry, preferably in a dark cupboard, through which a current of dry air can be passed and kept about 80° F.

No. 446.

HYPO ELIMINATOR.

Place plates or prints in several changes of water to which sufficient Potassium Permanganate solution has been added to a *pale pink* color, until the pink color is no longer readily discharged. Then rinse in water. Caution: Too strong a solution acts as a reducer.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

BALTIMORE.

The Annual Meeting of the Branch was held January 29, 1917, at Harris Hall, in the University of Maryland, with the President, Mr. Louis Schultze, in the chair.

The Secretary gave a résumé of the work of the year, saying that all of the regular meetings had been held and that no reports of those since the March session had been sent to the journals, as it had been physically impossible for him to get the matter into readable shape in time for publication, as 1916 had been the most strenuous year of all his business career and that 1917 is a husky infant.

A resolution passed by the Philadelphia Branch, in which it went on record as favoring the continuation of both the JOURNAL and the Year Book, was read, as was also a resolution passed by the New York Branch in which it stated that it had considered the resolution of the Philadelphia Branch, and, inasmuch as the result of the recent referendum vote on this subject by the entire membership of the Association was not known, a committee had been appointed and is to report at a future meeting.

One of the members stated that when he voted he had written on his ballot that he favored the continuance of the Proceedings as in the past, or the Year Book as at present, but that the editions be issued more promptly, the dropping of the JOURNAL, but did favor the incorporation of it with some pharmaceutical journal which could furnish a certain number of pages for the use of the Association. The Association to assume the responsibility for the matter published thereon, and, inasmuch as *one journal* had regularly given considerable space to the monthly reports of the Branches, he suggested that the added prestige from the first publication of the Association's activities, papers and Branch news would be very desirable for it and would be seriously considered.

After a lengthy discussion in which all phases of the subject were considered, it was resolved: That it was the sense of the Branch that it approved of the action of the New York Branch and felt it best to wait for the result of the referendum vote before proceeding further. Doctors Caspari and Kelly had been asked to discuss the U. S. P. IX and took the lead in the consideration of it which followed.

The opinion of the authorities was stated to be that the U. S. P. VIII is official till Congress or the legislatures say otherwise, as the legislative bodies can not make an authority legal which did not exist at the time the legislation was enacted. Congress has taken no action and none seems likely at this session. National officials seem reluctant to give any opinion at all but the general verdict seemed to be that in the event of prosecution for violation of the law, the officials would take into consideration the edition used by the accused and he would be judged accordingly. It was considered, therefore, important to label all preparations as U. S. P. VIII or U. S. P. IX for the present.

It was pointed out that the tolerances in strength above and below the standard in the new U. S. P. IX are practically what the officials have been allowing and that their incorporation in the new book makes it more desirable for the pharmacist than the old one.

Many questions were asked and answered as to changes in preparations and it was brought out that the alternative of charging solution of magnesium citrate with sodium bicarbonate was fraught with danger if the powder and not the tablet was used as the sudden liberation of gas and consequent sudden increase of pressure would tend to burst the bottle in the hands of the operator. One member stating that while he felt such would be the case, nevertheless tried it with disastrous results.

It was brought out that the Get-rich-quick-

Wallingford-priced tablets of sodium bicarbonate put out by some of the manufacturers were compressed so hard as to be just a little more soluble than the average pebble from the beach, and as a result took so long to dissolve and were so high in price that he had dampened a mixture of sodium bicarbonate 4 parts and powdered sugar 1 part with sufficient water to form a moist powder, pressed through a number five sieve and dried it at a low temperature. Forty-one grains of the resulting granules were used and they completely dissolved in from three to three and a half minutes. About five hundred bottles had been charged with such a granulated sodium bicarbonate and no explosions resulted.

Among those who took part in the discussions besides the speakers of the evening were Misses Cole, Lotz, Mossup, Sonneborn and the Messrs. Hancock, Lentz, Lowry, Schultze and Ware.

The officers elected for the ensuing year were as follows:

President, H. A. B. Dunning; *Vice-President and Chairman Executive Committee*, Frantois Lentz; *Secretary and Treasurer*, B. Olive Cole, 303 W. Pratt St., Baltimore; *Member of Council*, Hermann Engelhardt; *Chairmen of Committees: Membership*, Charles H. Ware; *Professional Relations*, C. L. Meyer; *Science and Practice of Pharmacy*, E. F. Kelly; *Education and Legislation*, Charles Morgan.

WM. J. LOWRY, JR., *Secretary*.

CHICAGO.

The executive committee of the Chicago Branch, A. Ph. A., has prepared a tentative program for the coming Branch meetings.

At the February meeting Dr. Robert A. Hatcher, of New York, one of our best posted men on the assaying of drugs by testing on animals, will discuss in a general way the Biological Assays of the new U. S. Pharmacopoeia.

The March meeting will include a discussion on the value to pharmacy of the cultivation in this country of medicinal plants. Dr. W. W. Stockberger, of the Dept. of Agriculture in Washington, will lead the discussion with an address illustrated by many fine lantern slides, showing the state of the industry at present.

In April, a discussion of the business end of retail pharmacy will come up, especially the buying end of the business. Able speakers representing the manufacturers, the jobbers,

buying clubs, etc., will take part. The object of the meeting is to show the average retailer how he can improve his buying methods.

The meeting in May will be the last before the summer conventions. The appointing of delegates to the state and national conventions and instructions to the delegates will be an important feature of the meeting. The Executive Committee desires that the Chicago Branch will formally invite the Association to hold its 1918 Convention in Chicago.

E. N. GATHERCOAL, *Secretary*.

CITY OF WASHINGTON.

The December meeting of the Branch was held at the National College of Pharmacy, Dec. 27, 1917, and was made a memorial meeting so that the members of the Branch would have an opportunity to pay tribute to the memory of our late member Martin I. Wilbert.

At the opening of the meeting the Nominating Committee reported the following nominations, and on motion duly seconded and carried the gentlemen named were elected unanimously:

W. W. Stockberger, *President*, S. L. Hilton, *First Vice-President*, W. S. Hubbard, *Second Vice-President*, H. C. Fuller, *Secretary* and Council member for the unexpired term of 1 year, Lewis Flemer, *Treasurer*.

The Committee appointed at the last meeting to draft suitable resolutions on the death of Martin I. Wilbert, presented the following resolutions which were unanimously adopted and the Secretary directed to forward a copy to Mrs. Wilbert and also the Council of the American Pharmaceutical Association:

RESOLUTIONS PRESENTED AT A MEETING OF THE CITY OF WASHINGTON BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, DECEMBER 27, 1916.

By the death of Martin I. Wilbert, one of the ablest representatives of the pharmaceutical profession has been removed from the field of activity. Mr. Wilbert's many years in the active practice of his calling resulted in his obtaining a thorough knowledge of, and a wealth of experience in all branches of pharmacy and his wide acquaintance and association made him appreciative of the relations between his own and the allied professions of Chemistry and Medicine. His industry and his enthusiasm were unbounded, and were typically characteristic of the man, and these qualities, together with his broad and tolerant outlook and his kindly and genial nature endeared him to his friends and begat the es-

teem of all his associates. He was one of the founders of the Washington Branch of the American Pharmaceutical Association and an energetic worker in its behalf.

Mr. Wilbert died on the firing line with many years of activity still before him, a comparatively young man, an inspiration to his immediate contemporaries and the youth of the pharmaceutical profession.

Be it resolved, therefore, by the Washington Branch of the American Pharmaceutical Association that the sincere sympathy of the officers and members be extended herewith to Mrs. Wilbert in her great loss and that a copy of these resolutions be transmitted to the Council of the American Pharmaceutical Association to be spread upon the records.

(Signed) H. C. FULLER,
WYMOND H. BRADBURY,
LEWIS FLEMER, *Committee*.

Dr. Murray Galt Motter, a co-editor on the Digest of Comments of the U. S. P. VIII, as published by the Public Health Service opened the meeting and paid a glowing tribute to the memory of his collaborator. There is probably no one that is better able to speak of his many good qualities and the many sacrifices that he made as Dr. Motter, and in the course of his remarks said that Martin I. Wilbert was and had been for years the strongest link between the medical and pharmaceutical professions, he spoke of his early education in Canada where he acquired French and some German and later finished German at the German Hospital, Philadelphia, where he was pharmacist in charge and X-ray expert. He resigned his position at the German Hospital to accept a position in the Public Health Service, believing he could broaden his field of usefulness and here accomplished far more than was ever expected of him, he was an untiring worker always with good ideas and ever ready to undertake any problem, he was a source of information constantly sought after by every one he came in contact with and he could always enlighten those that came to him or inform them where they could obtain the desired information. He always looked far ahead and felt that further legislation should be enacted to better control the use and distribution of narcotic drugs, whatever credit that is due for the work on the Digest should go to Wilbert. He also spoke of his many sterling personal qualities and his kindly disposition and said that the Service would find it exceedingly difficult to find some one to take his place.

Dr. Kalusowski, the retiring president, being absent owing to illness, was prevented from adding further remarks.

Mr. Lewis Flemer, the president, spoke along the same lines as Dr. Motter but not so fully as he had not been so closely associated.

Dr. Chestnut, of the Bureau of Chemistry, paid a glowing tribute to his memory as likewise Dr. Posen and Mr. Hilton, whereupon the meeting adjourned.

S. L. HILTON, *Secretary*.

DENVER.

The January meeting of the Denver Branch of the American Pharmaceutical Association was held at the Metropole Hotel, January 16. President Hover called the meeting to order after the usual dinner; following the reading and approval of the minutes of the December meeting, the Secretary read a letter from the American Fair Trade League in regard to the Stevens bill, and a communication from the Philadelphia Branch of the A. Ph. A., offering a resolution in reference to the Year Book. As the branch had taken similar action at its December meeting, no action was necessary on the Philadelphia resolution.

The Secretary then offered the following amendment to the by-laws of the branch:

Article I, Section 1, to be amended by inserting the word "and" between Secretary and Treasurer.

Article II, Section 6, eliminate the word "treasurer" in the first line, and the following portion of this section: "Collect all dues and other money, pay out such money as authorized by the president or executive committee."

Create a new section under Article II to be known as Section 7, and to read as follows: "The treasurer shall collect all dues and other money coming to the Branch, and pay out of the funds so collected, all bills incurred by the Branch on presentation of a bill or invoice, properly signed or O. K'd by the President, Secretary or Librarian. He shall keep an accurate account of all moneys received and paid out and keep separate account of the library and general receipts and expenditures, and render a complete report at the January meeting each year."

As new officers for the ensuing year were to be elected at this meeting, it was proposed that in consideration of this, the by-laws requiring a month's notice of amendment, should be suspended in this instance, providing the submitted amendment would receive unanimous approval of all members present.

A vote was taken, and the amendment unanimously approved. Nominations for a treasurer were therefore in order, for which office L. A. Jensen was nominated. The election of other officers was then in order, and the following were unanimously elected:

President, A. W. Clark; *First Vice-President*, L. Wilson; *Second Vice-President*, S. T. Hensel; *Librarian*, W. T. Hover; *Treasurer*, L. A. Jensen; *Secretary*, F. W. Nitardy.

In the absence of Messrs. A. W. Clark and L. Wilson, Second-Vice President Hensel assumed the chair. A speech was called for, to which Mr. Hensel responded.

Mr. Se Cheverell was then called upon to outline the proposed amendments of the Pharmacy Law. The proposed propositions were taken up one by one, discussed and voted on.

Question 1. Shall membership in the Colorado Pharmaceutical Association be made a requisite for registration? (This is done in South Dakota and Utah.)

Discussed by Messrs. Se Cheverell, McKenzie, Nitardy, Hover and others. On motion was unanimously approved.

Question 2. Shall the State Board of Pharmacy be empowered to employ the Secretary outside the profession of pharmacy, the duty of such Secretary being to prosecute violations of the pharmacy law? This will entail an increase in examination and renewal fees, but can easily be done if point number one is carried out.

This question was discussed by Messrs. Hover, Clayton, Nitardy and Gregory, after which an amendment was offered by Dr. Engle, proposing the employment of an attorney, instead of a secretary, and after a further discussion the amendment was adopted and this proposition amended, approved unanimously.

Question 3. Shall separate lists of questions be prepared by the Board, for assistant and full registration?

After some discussion, it was decided that this should be left to the discretion of the Board, and not a part of the law, therefore, no action was taken.

Question 4. Shall the State Board be authorized to reciprocate in registration with other States?

On motion, this received unanimous approval of the Branch.

Question 5. It has been suggested that all persons or firms, dealers in drugs and medicines in any way, be compelled to register with

the State Board, under various classes. Class A, full registered pharmacists; Class B, assistant pharmacists; Class C, apprentices; Class D, local drug dealers. This class includes dealers in towns of less than 500 persons, general merchandise stores, etc., permitted under our present law to sell drugs when no pharmacy is established in the community, and this registration should include a forfeiture clause, when a registered pharmacist establishes a drug store in the community. Class E, itinerant venders of drugs and medicines. It is recommended that a license of from \$50.00 to \$100.00 per month be required.

It has been suggested to make the fees for Class A, \$4.00 per year, \$2.00 of which is to go to the Colorado Pharmacal Association. Class B, \$2.00 per year. Class C, \$1.00 per year. Class D, \$2.00 to \$5.00 per year. Class E, \$50.00 to \$100.00 per month.

After considerable discussion, this section was unanimously approved with the understanding that the details of working out the various fees and privileges of the classes be left to the committee for adjustment.

Question 6. Shall the Board be empowered to revoke licenses for second or third convictions for violation of State or National narcotic or liquor laws?

After some discussion, it was decided that this section was an indirect reflection on the pharmacists, and should not form a part of the amended law, as there had been practically no violations by pharmacists of either narcotic or liquor laws within the State of Colorado, during the past year.

Question 7. Shall failure to answer the questions of the Secretary of the Board, giving necessary information for the annual report, be grounds for forfeiting re-registration? (This is done in several states.)

After some discussion, it was decided that the Board should have power to obtain the information required, but that neglect in this respect should not result in forfeiture of registration. No action was therefore taken on this question.

Mr. Clayton stated that there were several things in his opinion, that should be considered in framing the amendments of the pharmacy law, that had not been mentioned by the Legislative Committee. The subjects he referred to were:

A requirement in the law that no one, except those licensed to operate a drug store, may use a sign or advertisement indicating

that their establishment or place of business, is a drug store or pharmacy. He stated a case which had come to the attention of the Board of Pharmacy, where a man, not a pharmacist, opened a place of business, and placed a drug store sign over same. A casual glance at the place would make one think that the place was a drug store, but on further examination it was found that no drugs were handled in this place, but instead only liquor and this in violation of the law.

The Denver Branch and the State Association, having both gone on record, favoring the requirements of college graduation after 1921, as a prerequisite for registration in Colorado, such provision should be included.

Under the present law, the Board of Pharmacy is greatly handicapped in enforcing the law, through lack of funds. It would, therefore, be advisable to provide further funds through increase in registration fees, examination fees, or the charge of a certificate fee from successful candidates.

After some discussion, it was moved that the first and third recommendation of Mr. Clayton be endorsed and carried unanimously.

Mr. Nitardy stated that, in view of the fact that the Branch had previously endorsed the second proposition, it would be desirable to endorse this also at this time, and moved that the second proposition be endorsed. A short discussion followed, in which Mr. Clayton made an eloquent appeal on behalf of the poor boy that might not have a chance to obtain a college education, and therefore, would be barred from entering pharmacy, in case such a law should take effect. A vote taken, on this question, stood: 6 for, 7 against, 9 not voting.

Mr. Hover was then asked to discuss the status of the Alcohol Bill, and its possibilities before the present legislature. Mr. Hover stated that he believed there would be no trouble in obtaining the desired legislation this year, as the Anti-Saloon League was in sympathy with the requirements in this respect, and that under proper handling it should be possible to have the desired legislation enacted. The subject of a formula for alcohol for bathing purposes was brought out in the discussion, and Mr. Hoover suggested that in the proposed Alcohol Bill, definite formulas be named for alcohol to be sold for bathing and technical purposes. He suggested that the formula known as the Tartar Emetic Formula, and which was approved by the County Medical Society, the State and City,

the Denver Branch, The City Association, and the Anti-Saloon League, be used, and that possibly another formula for an undiluted alcohol, which could not be abused as an intoxicant, be also included. After some further discussion, it was decided to request the committee which had the Bathing Alcohol question in charge, to report on two suitable formulas to the legislative committee, same to be incorporated with the Alcohol Bill.

F. W. NITARDY, *Secretary*.

NASHVILLE.

The regular meeting of the Nashville Branch of the American Pharmaceutical Association was held in joint session with the Nashville Drug Club in the assembly room of the Nashville Business Men's Association, January 18, when Mr. D. J. Kuhn presided. About thirty druggists were present and this number included the members of the Tennessee Board of Pharmacy and Food and Drug Inspector, Harry Eskew.

Communications were read from the Philadelphia and New York Branches of the American Pharmaceutical Association, dealing with the financial condition of the Association. After considerable discussion of the subject by Messrs. Burge, Clark and Justice, a committee of three members was appointed to fully investigate the subject and bring in their report at the next meeting.

A resolution was passed commending the action of the Pure Food and Drug Commissioner in having four drug stores closed for violating the Tennessee Liquor Laws, and also urging action by the Courts in other similar cases now pending. Inspector Eskew spoke of the difficulty in enforcing laws with the limited number of men assigned for that purpose. He spoke for more sanitary methods in the operation of soda fountains, and pointed out the great danger of spreading disease through uncleanness at the fountain, and asked the coöperation of all druggists in this matter.

A resolution was passed opposing the Lachleiter Bill before the Tennessee legislature, the purpose of which is to abolish the magistrate courts of Nashville.

F. W. Ward, of Memphis, invited the members to attend the Tri-State Druggists Association Meeting to be held in Memphis, June 12 to 14. This is to be a joint session of the State Associations of Mississippi, Arkansas and Tennessee, and Mr. Ward stated that from twelve to fifteen hundred druggists were expected to be in attendance.

Addresses were made by W. O. Nance, of Jackson, Harry Whitehouse of Johnson City, J. E. Justice of Clarksville and Dr. G. W. Hubbard. William R. White presented a paper on Dakin's Solution.

WILLIAM R. WHITE, *Secretary*.

NEW YORK.

The December 1916, meeting of the New York Branch of the American Pharmaceutical Association, was held in the Library of the New York College of Pharmacy, on Monday the 11th, at 8.30 P.M.

There were twenty-five members present. President Lascoff in the chair.

The minutes of the previous meeting were read by the Secretary and approved.

The Treasurer presented his report, which showed a balance of \$111.70 on hand.

Membership Committee: The application of William E. Gifford, of 203 Fulton Street, New York, was ordered forwarded to the General Secretary.

Committee on Legislation and Education: Dr. William C. Anderson, chairman, reported on the hearings before the anti-narcotic legislative committee. He called attention to the fact that the largest illegitimate supplies are obtained from peddlers and not from retail pharmacists, and reported the prospects of satisfactory amendments to the anti-narcotic laws. After a discussion by Messrs. Kane, Army, Mayo and others, the Secretary was directed to notify the members of the final hearing before the Legislative Committee on December 13th.

Committee on Fraternal Relations: Dr. Diner, Chairman, was not present at the meeting, but the following report was read by the Secretary:

"DR. J. LEON LASCOFF,

President N. Y. Branch A. Ph. A.

MY DEAR LASCOFF:

Owing to a pressing engagement it will be impossible for me to attend the meeting of the Branch on Monday next. I wish, however, to report on the status of the proposed joint meeting as follows:

The second meeting of the joint committee was held at the residence of Dr. J. Bentley Squires, President-elect of the New York County Medical Society, on Tuesday evening, December 5th. There were present Drs. Squires, Bastedo, Dougherty, Lascoff, Mayer, Diner and Messrs. Walter and Lehman. On motion, Dr. Diner was elected to act as chairman of the meeting.

After a considerable discussion, the following program was accepted:

The meeting is to be held on February 20, 1917, at the New York Academy of Medicine, the County Medical Society and the Branch to jointly defray the expenses of the hall. The Medical Society is to send out notices to all the medical men and the Branch to all pharmacists and pharmaceutical societies.

The following papers are to be read by the men named:

1.—"The Present Status of Professional Pharmacy," Dr. George C. Diekmann.

2.—"The Physician's Need of the Professional Pharmacist," Dr. Jacob Diner.

3.—"Stemming the Tide," Dr. Walter A. Bastedo.

4.—"Facing the Future," Dr. Dougherty.

The details of the papers were then discussed at great length. It is necessary for our Branch to bestir itself and secure a large attendance of pharmacists. For this purpose, I would suggest that the Secretary of the Branch be authorized to send invitations to every pharmaceutical society in Greater New York, inviting them to attend this meeting and urging the societies to emphasize the importance of this meeting to their members. Furthermore, special announcements are to be sent to every member of the A. Ph. A., be he a member of the Branch or not. Due notice to be given to the pharmaceutical press and urging the various editors to call special attention to this meeting.

In conclusion, I wish to thank the members of our Committee for the loyal support they have given me in this work.

Respectfully yours,

(Signed) JACOB DINER.

Dr. Diner's report was accepted and ordered incorporated in the minutes.

Progress of Pharmacy: Dr. Diekmann being absent, no report was rendered.

Secretary Hostmann then reported that he had attended the meeting held in memory of Martin I. Wilbert, held at the Philadelphia College of Pharmacy, as requested by the President, several of the members present adding their testimony of the life and achievements of Professor Wilbert.

President Lascoff announced the appointment of the following as a Committee on Nominations:

Charles W. Holzhauer, *Chairman*, Gustave Horstmann, Joseph L. Turner.

The Secretary read a letter from Mr. Charles

W. Holzhauer, regretting his inability to be present, particularly as he had expected to join in the discussion of the papers that were to be read.

Professor Homer St. Clair Pace presented a paper on "Accounting for Retail Pharmacists." He gave his views as to the necessity for teaching accounting to pharmacy students and outlined the course now given under his direction at the New York College.

Doctor Robert P. Fischelis read a paper on "Commercial Training for Pharmacists," dwelling chiefly on the necessity for teaching salesmanship, window dressing, etc.

Both of these papers created an extremely spirited discussion in which the general revolution taking place in all lines of education was touched upon.

JEANNOT HOSTMANN, *Secretary*.

At the January meeting of the New York Branch, the following officers were elected:

President, Dr. Joseph L. Mayer; *Vice-President*, F. L. McCartney; *Treasurer*, Joseph Weinstein; *Secretary*, H. H. Schaefer, 115 W. 68th St., N. Y.; *Member of Council*, Jeannot Hostmann.

H. H. SCHAEFER, *Secretary*.

PHILADELPHIA.

The regular monthly meeting of the Philadelphia Branch of the A. Ph. A. was held Tuesday evening, December 12th, at the Philadelphia College of Pharmacy.

President Sturmer called the meeting to order at 8.45 P.M., and the minutes of the previous meeting were read and approved.

Prof. Henry Kraemer, acting for the committee appointed at a special meeting, submitted the following report:

The passing of Martin Inventius Wilbert leaves a gap among the leaders in pharmacy that it will be difficult for us to bridge over, let alone to attempt to fill. His knowledge of the biography and bibliography of his profession was both comprehensive and thorough. He was inspired by high aspirations and honorable resolutions. His vision was unusually clear, and his perception remarkably keen as to the immediate steps that should be taken for the development of the profession of pharmacy. His honesty of purpose and absolute disinterestedness in connection with every problem and task that confronted him was the wonder and admiration of all those who came to labor closely with him. His equanimity of disposition, patience and forbearance with those who differed with him gained for him the esteem of all. He was no idle dreamer, but worked easily, methodically and steadily.

He had an unusually practical mind and understood the latent powers of those with whom he came in contact, so that he could divine their half-thoughts and bring them into action. He was a pioneer, a propagandist, a diffuser of knowledge; a liberal and generous co-worker. He endeavored by argument, rather than persuasion and by free and open discussion, rather than by other methods to attain the goal of his ambition which was to see a rehabilitated science and art of pharmacy established such as had been the dream of all the leaders in our profession since the dawn of American pharmacy in Carpenter's Hall in 1821. He labored in local pharmaceutical societies, the State Associations, the American Pharmaceutical Association, and even entered vigorously into the work of other organizations that he might exert a potent and beneficial influence for his adopted profession. From early youth, Mr. Wilbert was not possessed of robust health, and during the past few years, he doubtless knew that the end was not far distant, and so put into these few years all the energy he possessed. He worked incessantly and conscientiously from the spring-time of his life until the autumn period, when at the age of 52, he was called to the higher and immortal life. His passing away on that bright morning of November 25th, just as the sun dispelled the mist and fogs, comes to us as a reminder of the beneficent influence of his noble nature and exalted life.

As members of the Philadelphia Branch of the A. Ph. A., we mourn the loss of one of our most useful associates and one of America's great men in pharmacy.

Resolved, therefore, on behalf of our members, that we adopt this testimonial to the memory of Martin Inventius Wilbert; and further

Resolved, that these resolutions be recorded in our minutes, and that copies be sent to his widow, Mrs. Elizabeth Wilbert, and to his parents, Mr. and Mrs. Michael Wilbert.

Dr. R. P. Fischelis moved that the report be accepted and the resolutions adopted. Motion was seconded and received a unanimous vote.

Under new business, Dr. Fischelis again brought up the question of the advisability of holding a meeting in which "The Revision of the Patent Laws" would furnish the topic of discussion, and to take steps to secure the attendance of members of other interested bodies.

Prof. Kraemer moved that a committee be appointed to arrange for such a meeting. The motion was seconded by J. Atlee Dean and passed when put to vote.

The program of the evening was then taken up, and Prof. E. Fullerton Cook read a paper on "The Syrups and Elixirs of the U. S. P. IX and the N. F. IV." Prof. Cook had samples of all the elixirs and syrups in which any change of formula had been made, and on inspection these samples brought forth interesting discussion from Messrs. Cliffe, Kraemer, Beringer, and Hunsberger.

In discussing the question "What Disposition Shall be Made of the Year Book?" the following points were emphasized:

1. The A. Ph. A. gives each member more than his dues will pay for; hence each year there is a deficit. This must be met with an increase of revenue or a decrease of expenditures. The former can be brought about only by an increase of dues; the latter most feasibly, either by discontinuing the Year Book, or publishing it in the JOURNAL from time to time.

2. The continuance of the Year Book is absolutely necessary for the progress of American Pharmacy, for it is only by the use of this and allied works that any progress is made. Were it not for this systematized and carefully indexed account of what has been done, information which can now be obtained in a few moments, would only be available after an extended time and patience consuming search through many journals. In accordance with this view, the following resolution was proposed and adopted:

Resolved, That the Philadelphia Branch go on record as favoring the continuance of the JOURNAL and the Year Book, as at present, and that any deficit which might occur be met by an increase in dues; and that further, the Secretary be instructed to send copies of this resolution to the Council and to the secretaries of the various Local Branches.

The question of increasing our membership was discussed, and the matter was turned over to the Membership Committee.

J. ED. BREWER, *Secretary*.

The regular monthly meeting of the Philadelphia Branch of the A. Ph. A. was held Wednesday, January 17, 1917, at 4 P.M., in the Auditorium of the Philadelphia Chamber of Commerce.

President Sturmer called the meeting to order at 4.20. The usual order of business was dispensed with, and the subject for discussion was taken up at once.

Dr. F. E. Stewart and Mr. Joseph W. England each presented a paper on "Proposed Revision of the U. S. Patent Laws."

Dr. C. F. Taylor opened the discussion of the papers, and said that little could be done in this direction in the medical center until medical men were brought to a better understanding of Foreign Patent Laws, U. S. Patent Laws, and proposed revision by a simplified propaganda.

Mr. Henry Blair suggested that we make an attempt to interest and to secure the coöperation of the American Chemical Society.

Messrs. Hunsberger, Dean, and Eberle also presented some valuable suggestions. At the conclusion of the discussion, the following motions were presented and passed:

1. That we are in favor of granting process patents only.
2. That we are in favor of the original patentee receiving a royalty from the holders of any subsequent patents.
3. That we are in favor of a patent law reciprocating with other nations as regards compelling a holder of a U. S. patent to manufacture his product in this country.
4. That we are in favor of extending the limit of the Paige Bill so as to include all chemicals.
5. That we are in favor of a revision of the copyright laws so as to definitely exclude generic names from the list of those copyrightable.
6. That the President appoint a committee of three to confer with the American Chemical Society concerning this important subject.

J. ED. BREWER, *Secretary*.

SAN FRANCISCO.

The San Francisco Branch of the American Pharmaceutical Association met on January 11, 1917, in the Union Square Building. President J. L. Lengfeld presided.

A communication on the question of "What disposition shall be made of the Year Book" was received from the Philadelphia Branch. The members felt that the dues should not be increased as it is rather hard to obtain new members. Both the Year Book and the JOURNAL should be continued and an extra charge be made for the Year Book or otherwise publish it in the JOURNAL.

Other topics discussed were Social Insurance as proposed in a bill now before the State Legislature, and postal regulations for sending medicines. Many claimed that Social Insurance would not improve the medical attention which the poor receive at present and would pauperize the people.

The members adjourned to meet again on the evening of February 8, 1917, and at this meeting President Lengfeld hopes to show several ancient pharmaceutical books.

CLARISSA M. ROEHR, *Secretary*.

COUNCIL BUSINESS

A. PH. A. COUNCIL LETTER NO. 9.

PHILADELPHIA, PA., November 25, 1916.

To the Members of the Council:

Motion No. 9 (Resignation of H. P. Hyinson as Member of Committee on Recipe Book) and Motion No. 10 (Election of Members; Applications Nos. 22 to 30, Inclusive) have each received a majority of affirmative votes.

Motion No. 14 (Appropriation of \$5,000 to the National Formulary Account). Moved by J. A. Koch, seconded by W. B. Day, that \$5,000 be appropriated to the National Formulary account with which to pay bills for the National Formulary IV. The appropriation is approved by the Committee on Finance. Sufficient funds have been received from the sales of the book (N. F. IV) to make the appropriation without using the general receipts.

Motion No. 15 (Election of Members). The following applications for membership have been received:

- No. 31. Edwin Smith, Ph.G., Augusta, Kentucky, rec. by Henry Bertrams and Wm. B. Day.
- No. 32. Roy Longueville Harvie, Ph.G., Augusta, Kentucky., rec. by Henry Bertrams and Wm. B. Day.
- No. 33. Leon Hermann French, U. S. Naval Training Station S, San Francisco, Cal., rec. by A. A. Lee and Wm. B. Day.
- No. 34. Henry Clifford Colson, Jr., 2809 Mt. Holly St., Baltimore, Md., rec. by H. Englehardt and Charles C. Neal.
- No. 35. Chas. Marion Bandel, 1331 California St., San Francisco, Cal., rec. by J. L. Lengfeld and Clarissa M. Roehr.
- No. 36. Sidney Ormon Barnstead, New Lebanon, New York, rec. by J. L. Hopkins and J. W. Cox.
- No. 37. James Clarence Palmer, 4703 18th Avenue Northeast, Seattle, Wash., rec. by F. Edith Hindman and F. J. Goodrich.
- No. 38. Philip F. Fackenthall, Medical College of Va., Richmond, Va., rec. by Wortley F. Rudd and Albert Bolenbaugh.

The following communications have been received:

Mr. Harry B. Mason writes: "I have re-read Council Letters Nos. 4 and 6 with reference to the Committee on the National Formulary. There seems to be more or less confusion in the minds of members on this subject, and I think the whole situation could be straightened out very easily. It is clear to my mind that Professor Diehl's resignation from the chairmanship still left him as a member of the committee, and that the motion for the election of Dr. Fantus was, therefore, out of order. It is equally clear that there was no necessity for Professor Snow's motion to elect Professor Scoville to the chairmanship of the committee. Professor Scoville is already acting chairman and has been for a year or two.

"As a matter of fact, the Council voted at the Atlantic City meeting to continue the present committee until 1919, at which time it was proposed that the A. Ph. A. would appoint a new committee for the purpose of bringing out the next revision of the book. The present committee was held over for another three years merely that it could correct any errors in the present revision and in order that it could issue a quinquennial supplement. Hence we find this situation—that a committee is already in existence, that there are no vacancies in its membership, and that it has an acting chairman, and that it is to remain as it is until 1919. I would be in favor of voting for Mr. Beringer's motion that the present status quo be continued except that it is entirely superfluous. Likewise superfluous and premature is any talk about either the chairmanship of the next committee or the personnel of its members.

'If deemed necessary, a vote might be taken on the motion to elect Professor Scoville to the actual chairmanship of the present committee, but he really holds what amounts to that office already. And as for nominating him or anybody else for the next committee that seems to be a matter that cannot be taken up until 1919 unless the Council reverses itself in the meantime. Therefore, it seems to me that all this discussion is entirely beside the mark. As Josh Billings would say, 'we are talking about a lot of things that ain't so.'"

Lucius E. Sayre writes: "I am very much interested in Motion No. 12 (Fund for Proposed A. Ph. A. Home). As to the *name*, I would object to the title 'Home,' and I do not altogether like that of 'Building.' I should prefer 'The Pharmacists' Headquarters' or 'Center,' 'Publication Offices,' or some such title. However, this title is a matter of detail which may be settled upon in the near future. It should be decided soon, however, in order to aid the soliciting committee.

"Permit me to say: I am inclined to the opinion: this is a very hard time to raise funds, as there are so many appeals at this time for the relief of distress on account of present European conditions. I find it difficult to finance similar projects here in the Middle West on this account. Nashville is not an ideal center."

E. G. Eberle writes: "Replying to Council Letter No. 6, Motion No. 12: While the Association has taken no specific action relative to a permanent home, the status of the question may be viewed in the light of unfinished business. 'The offer of Nashville was received and placed on record for future consideration.' The proposition has not been disposed of.

"I believe the members of the Association are hopeful that at some time, and the sooner the better, they will have a home; they have a desire for a home if means can be provided to secure it and utilize the home advantageously. It is a question of finance.

"I think Dr. Whelpley, the mover of the motion, should give us a little further explanation so that the members of the Council may know what the prospects of success are. Reading between the lines, evidently encouragement has been given in some way and, if this is the case, I am sure the members would be pleased to hear the good news with such instructions as may be necessary for their guidance so that they may render assistance in the movement. Final approval of the committee's work and recommendation will come before the Association.

"If Dr. Beal will consent to accept the appointment, should the committee be authorized, he will make no mistake in selecting his associates. No comment need be made relative to the quality of work that may be expected from this committee, if appointed; the name of the chairman implies that it will be done with utmost care and efficiency.

"Relative to the status of Prof. C. Lewis Diehl, I think that Mr. Wilbert's point is well taken and that Prof. Diehl continues a member of the committee. I consider that the work of the National Formulary Committee on N. F. IV is not completed, but I do not think it necessary to elect a chairman at this time. My idea would be to permit the committee to hold over just as constituted last year. I realize that the work of the committee has practically been completed but there may be some questions to answer that this committee as such could best handle. I, therefore, favor that the committee remain as it now is."

President Wulling writes relative to fund for proposed A. Ph. A. headquarters: "My own idea in the matter was to recommend a small, but strong, committee, the committee to have power to appoint sub-committees if it thought wise for a geographic covering of the country; that the fund to be secured be not less than a half million dollars; that half of that sum be employed in the erection and equipment of a substantial, fire-proof, steel-furniture equipped building that would afford ample facilities for the many activities in which the Association should engage; that the remaining quarter million dollars be used as an endowment, the income of which be used for administration purposes. No doubt many of our friends will think such a sum entirely too large, but, personally, I would rather set the mark at an even million dollars. I believe with the proper organization and energy a million could be collected as easily as half a million.

"Several weeks ago I began seeking information concerning the total number of persons engaged in retail, wholesale, manufacturing, jobbing and related pharmaceutical activities. I have also made inquiries looking to an approximate estimation of the total capital invested in the United States in pharmaceutical activities of all kinds. I believe a million dollars would be a very small assessment on this capital and would be one of the very best investments that American pharmacy could make. In a matter like this we will have to get away from the too universal habit of thinking in terms of ten cents."

George M. Beringer writes: "I have noted with interest Motion No. 12 offered by Dr. H. M. Whelpley. On this motion, however, I offer the following comment: First, I must take exception to continuing the use

of "A. Ph. A. Home." This inappropriate title for what we have in mind, A. Ph. A. headquarters, should not be officially continued in the records and discussions of the Association. Further, as this subject is one of great importance to the Association and may have a very decided effect on the plans and future work of the organization, it should receive the most careful consideration of the entire membership.

"Before a committee proceeds to raise funds for any purpose, the scope of the purpose and application of the money should be thoroughly defined.

"In my presidential address of two years ago (See Journal of the A. Ph. A., 1914, p. 1229), I pointed out the necessity for determining the scope of the work and the outlining of a comprehensive plan based on well defined ideas as to the actual needs of the Association and the field of work which it is contemplated to engage in through the establishment of an A. Ph. A. Headquarters. Any extension of the work of the A. Ph. A. will entail an increase in the expense of the management and so an ample endowment fund must be provided to insure the income necessary.

"The motion offered is, in my judgment, not sufficiently definite in its direction to the proposed committee. I am heartily in accord with reviving this project and formulating a comprehensive plan. I would like to see the motion modified so as to cover the object, scope and financial plan as well as the funds needed. Hence, I offer as a substitute motion:

"That Dr. James H. Beal be appointed chairman of a special committee, that he is to select, to consider the project for establishing an A. Ph. A. Headquarters; to report to the Association a comprehensive plan covering the scope of the work contemplated through such an agency; a plan for its permanent management; and also a statement as to the amount of endowment fund that will be necessary to provide for sufficient income for this purpose so that the financial support of the project will be assured."

The above motion is seconded by Dr. F. E. Stewart. It will be known as *Motion No. 16* (*Substitute Motion for Motion No. 12*). The motions is open for discussion. A vote will be called for later.

Very truly yours,

J. W. ENGLAND,

Secretary.

415 N. 33RD STREET.

A. PH. A. COUNCIL, LETTER NO. 10.

PHILADELPHIA, PA., November 22, 1916.

To the Members of the Council:

At the request of President Wulling, the following correspondence is submitted:

CHAPEL HILL, N. C., Nov. 10, 1916.

PRESIDENT F. J. WULLING,

American Pharmaceutical Association,

University of Minnesota,

Minneapolis, Minn.

DEAR SIR:

It is understood that in the early part of December, President Wilson will probably announce the appointees to the Tariff Commission created at the last session of the present Congress.

The Directors of the American Chemical Society deem it very important that at least one member of the Tariff Commission should be a man who has had chemical training, at the same time one who has had experience in commercial matters, and whose attitude towards the chemical industries will be broad-mindedly sympathetic.

From these standpoints, the Directors have agreed to recommend to President Wilson the appointment of Mr. Elwood Hendrick, of New York City.

Since chemistry and chemicals enter largely into so many other lines of manufacture, it has seemed to us extremely important to secure the coöperation of as many kindred organizations as possible in this recommendation of Mr. Hendrick.

I beg, therefore, to express the hope that you will take up this question preferably by wire, with your Directors or Executive Committee and join us in this movement.

For your information, I take pleasure in enclosing herewith a brief biographical sketch of Mr. Hendrick.

Trusting to hear from you at the earliest opportunity,

Very sincerely yours,

CHAS. H. HERTY,

President.

ELWOOD HENDRICK.

Born in Albany, N. Y., 1861, of English, Irish and Scotch descent.

Politics—Republican. Residence in New York City. Married 1897, 2 children.

Education—Boys' Academy of Albany and Public High School, Albany. Entered University of Zurich, Switzerland, 1878, studied chemistry, organic and inorganic, under Victor Meyer and Merz and Veith; returned

to Albany 1881; Assistant Superintendent and finally Superintendent Albany Aniline and Chemical Works until change in ownership in 1884. Came to New York City in 1884, became Assistant Cashier and then Surveyor for Commercial Union Assurance Company; contributed many articles on relation of chemistry to fire insurance in "Weekly Underwriter," "Chronicle" and other fire insurance publications; used many endeavors to establish a scientific basis for fire insurance inspections; in 1890 became Special Agent for Commercial Union Assurance Company in the South, representing them in various territories and thereby became intimately acquainted as Fire Insurance Special Agent with many industries east of the Mississippi and North of Gulf of Mexico up to New England, to wit, those in the following 14 states:

Georgia, North Carolina, South Carolina, Florida, Alabama, Virginia, West Virginia, Maryland, District of Columbia, New York, Maine, New Hampshire, Massachusetts (Springfield, East), and Rhode Island.

This lasted for ten years, or up to May 1900.

In May 1900, became associated with Pomeroy Brothers, brokers and dealers in investment securities in New York City.

January 1, 1916, retired from active business and addressed himself to the popularization of chemistry and also as editorial writer in various periodicals, more particularly in regard to chemistry as applied to industries; has been Vice-President of the Chemists' Club at New York for two terms and for many years a trustee of that Club; has occupied committee positions on behalf of the American Chemical Society. Has been director of the American Tube and Stamping Company of Bridgeport, Conn., Tariffville Oxygen & Chemical Company and Vice-President of Price-Campbell Cotton Picker Corporation.

Incidentally he has contributed numerous essays to the "Atlantic Monthly" and other periodicals. Has lectured before the Departments of Chemistry of the College of the City of New York, Columbia University and the Mellon Institute of Pittsburgh on relation of Science to the Humanities.

Clubs—Players, Chemists' and Century.

MINNEAPOLIS, MINN., Nov. 14, 1916.

DR. CHARLES H. HERTY, Pres. A. C. S.,

Chapel Hill, N. C.

MY DEAR SIR:

This will acknowledge your letter of November 10th in the matter of the recommenda-

tion of appointment of Mr. Elwood Hendrick, of New York City, as a member of the Tariff Commission. I will forward your letter and the brief biographical sketch of Mr. Hendrick, which you sent me, to the Secretary of the Council, with the suggestion that the matter be brought to the attention of the Council. Personally, I hope that chemistry and the allied interests will be represented on the Tariff Commission.

Very sincerely yours,

FREDERICK J. WULLING, *Pres. A. Ph. A.*

Do you favor coöperation with the American Chemical Society in recommending to President Wilson the appointment of Mr. Elwood Hendrick of N. Y. City, as a member of the Tariff Comm.?

This will be known as *Motion No. 13 (Recommendation of Mr. Elwood Hendrick as Member of Tariff Commission)*.

Very truly yours,

J. W. ENGLAND, *Secretary.*

415 N. 33RD STREET.

P. S.—Please return voting cards within 5 days.

MEMORANDA.

The following is submitted:

A. Ph. A. Membership Losses to Nov. 18, 1916.

Resigned since Oct. 18, 1916.

McKee, E. S., Cincinnati, Ohio.

Strasensburgh, J. H., Rochester, N. Y.

Suspended since Oct. 18, 1916

Nudd, B. F., Residence unknown.

Elkin, W. S., Jr., Atlanta, Ga.

Evans, Leon, Mayfield, Ky.

Jensen, C. A. B., Butte, Mont.

Colle, Bernard, New York, N. Y.

Wagner, J. L., Dayton, Ohio.

Bradley, F. E., Noble, Okla.

Brunk, L. D., Jr., Nowata, Okla.

Daily, A. D., Sherman, Texas.

Drach, C. D., Jeannette, Pa.

Ryer, J. S., Buffalo, N. Y.

Rogoff, J. M., Cleveland, Ohio.

Liebmann, Elias, New York, N. Y.

Rogers, B. I., Solon, Iowa.

Posey, H. G., New Orleans, La.

Easley, J. J., Hastings, Pa.

Raycraft, J., Monticello, Ill.

Melcher, Geo., Morgantown, W. Va.

Oxman, H. H., New York, N. Y.

Schwerdtmann, T. R., St. Louis, Mo.

The deaths are reported each month in the JOURNAL OF THE A. PH. A.

2152 paid dues for 1915.

2204 have paid dues for 1916.

203 have paid dues for 1917.

H. M. WHELPLEY, *Treasurer.*

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, and the Editor-in-Chief of the Journal, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Office of Publication, 253 Bourse Building, Philadelphia, Pa.

ENDOWMENTS.

Medical colleges are being remembered with large endowments, dental schools have not been neglected, and while a few schools of pharmacy have been favored, there are many more institutions entitled to such recognition. Institutions that have for years provided pharmaceutical education certainly have contributed toward the upbuilding of pharmaceutical and chemical industries, and financial encouragement should come to them as a reward for their valuable and faithful service, but still another motive may rightfully prompt such endowments, namely, to enable these institutions to carry on their work in accord with modern demands.

Extended mention was made in last month's issue, page 102, of the generous gift of Mr. George Robert White to the Massachusetts College of Pharmacy. Pharmacy, at large, appreciates this recognition of an institution, educating pharmacy students, and it is to be hoped that the example set will persuade others to do likewise; some to give thought to the fact that their success has been somewhat due to one or the other or all pharmacy schools, and that a gift to one or the other institution will speak for their appreciation and interest.

What has been said of the work of schools is applicable in a way to the American Pharmaceutical Association. To place this organization beyond the constant worry for sufficient funds in carrying on its mission and good work, and to extend it, would be a fitting recognition of the services rendered and place the Association in a position to utilize its opportunities in a wider field of activity. The work of the American Pharmaceutical Association speaks for itself, and those who have given of their time and energies have also been among the most generous supporters in a material way.

THE COMMITTEE ON DRUG REFORM.

Chairman L. E. Sayre is actively continuing his work and has issued a letter from which abstracts are presented. Doubtless there are

many who can be helpful in promoting the work of this important committee. He refers to the report presented at the Atlantic City meeting, which is printed in the JOURNAL A. PH. A., p. 1237, and continues by saying:

"It seems to me that this next Committee should take, first, a recognition of one fact in particular, namely, that Professor H. H. Rusby has been obliged to resign his position in New York as inspector on account of not having what he feels to be a fair chance to inspect imported drugs. I think you will find the statement in the January issue of the *Druggists' Circular*.

"Second—Permit me to call the attention of the present Committee to the problem of patent medicines, with reference to their proper control. Is it possible to suggest any method looking toward this?

"If patent medicines are to be legally recognized, it would seem unfair to ask a state analyst to go to the trouble and expense of *analyzing* these various products or preparations of this class as they drift into the market. It ought to be possible to require of the manufacturer who has the privilege of their sale to submit a confidential formula, at least to the proper authorities. The analyst should only be called upon to *verify* the alleged ingredients.

"Should not a properly organized committee be created to decide upon the question of the reliability of the statements on label and circulars of patent medicines?

"It may be unwise for any state board of health, state pharmaceutical association, or even a committee composed of members selected from each, to decide the question of trustworthiness, but should not the combined effort of the boards of health and state pharmaceutical associations be directed to the problem? Should they not make some move toward *national legislation* for the approval of the A. Ph. A.—leading to the proper solution of this problem?"

In concluding, Chairman Sayre refers to the article by Dr. J. H. Beal printed in the November issue of the JOURNAL A. PH. A.,

p. 1251, on "A Plea for Sanity in Drug Regulation."

LETTER OF SECRETARY JOSEPHUS DANIELS.

The following letter will interest the members of the American Pharmaceutical Association:

"Your esteemed favor of November 6th arrived at a time when I was so completely occupied with contracts for a large number of vessels authorized at the last session of Congress, that I was unable to give attention to my personal mail, and, while I thought I had acknowledged the receipt of your letter and expressed my appreciation of the Association's action, it appears that I have overlooked doing so.

"I am gratified to receive the approval of the Association for my action in this matter. The Navy is very proud of its official corps of Hospital Stewards, and I was very glad to assist in bettering their opportunities.

Cordially yours,

(Signed) JOSEPHUS DANIELS."

W. B. Day, Esq.,

General Secretary, A. Ph. A.,

701 South Wood St.,

Chicago, Ill.

This letter was written in response to one from the American Pharmaceutical Association and in recognition of Secretary Daniel's interest in behalf of pharmacists in the Government service (see p. 884, August issue of the JOURNAL A. PH. A., and also p. 1038, October number).

BILL FOR RELIEF OF PHARMACISTS IN PUBLIC HEALTH SERVICE.

Chairman S. L. Hilton advises that the following bill to fix the pay and allowance of pharmacists in the Public Health Service

has the approval of the Surgeon-General and is satisfactory to the men in the service. Encouragement should be given the measure and members should use their influence with Senators and Congressmen in its behalf. The measure is entitled:

A BILL.

To fix the pay and allowance for the pharmacists of the Public Health Service.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the pay of the pharmacists of the Public Health Service shall hereafter be at the following annual rates: For pharmacists of the third class, \$1200; for pharmacists of the second class, \$1400; for pharmacists of the first class, \$1600; and pharmacists of the first and second classes shall receive an additional compensation of ten per centum of their annual pay for each five years of service; such additional compensation, however, shall in no case exceed forty per centum.

Section 2. That pharmacists, when on duty at marine hospitals and quarantine stations, shall be entitled to quarters with furniture, fuel, and lights; and when they are on duty at stations where quarters are not furnished them, they shall receive compensation therefor at the rate of \$25 a month; and the allowance of subsistence is hereby abolished.

Section 3. That pharmacists may be placed on waiting orders when they are incapacitated for active duty by reason of age or illness not caused by their own vicious habits. A pharmacist having been on waiting orders longer than two months shall thenceforth, as long as he shall be on waiting orders, receive three-fourths of the pay to which he was entitled at the time when he was placed on waiting orders.

OBITUARY.

FRANK H. SHURTLEFF.

Frank Hamilton Shurtleff, of Roslindale, Mass., passed away December 2, 1916, after only a few days' illness. Mr. Shurtleff had been in poor health for a year. He was born in Somerset, near Fall River, Mass., fifty years ago. After graduating from the schools in Somerset he came to Boston and his early training as a druggist was obtained with Folger & Co., Washington St. and Worcester Sq., Boston, which was then the best part of the

city. In his later years he went to California, and in 1909 J. G. Godding engaged him and he held the position as manager of the Dartmouth street store. He was a graduate of the Massachusetts College of Pharmacy and a member of the American Pharmaceutical Association (1914), and a member of the Episcopal Church.

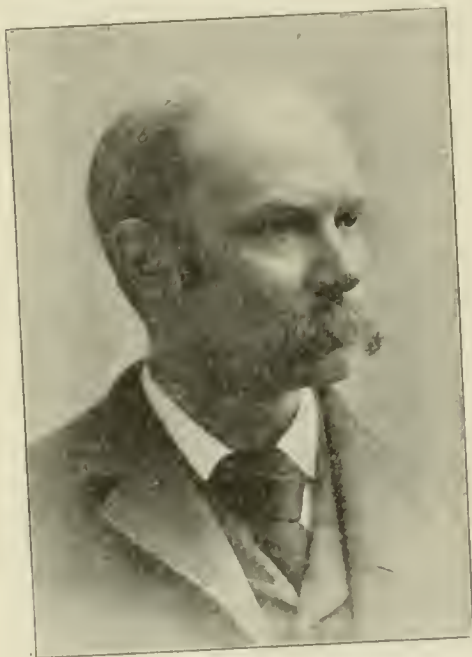
He leaves a widow, two daughters, and a son, a brother and sister.

A. C. WAGNER.

N. GRAY BARTLETT.

Nicholas Gray Bartlett, one of the pioneer druggists of Chicago, died on Thursday, January 4, 1917, aged 77 years.

Nicholas Gray Bartlett came to Chicago in 1861 from Louisville, Kentucky, his native city. He had previously served an apprenticeship with J. L. Morris & Sons, of Louisville, and had been for a time a student in the Kentucky School of Medicine. Upon his arrival in Chicago, he entered the employ of E. H. Sargent and matriculated at the Chicago College of Pharmacy. The closing of the school on account of the Civil War prevented young Bartlett from completing the course.



N. GRAY BARTLETT

He left Chicago in 1866 and became associated with his brother in the drug business at Keokuk, Iowa. Upon his return to Chicago in 1870, he was chosen professor of chemistry in the Chicago Medical College and shortly afterward was elected professor of chemistry in the Chicago College of Pharmacy and Editor of the *Pharmacist*, a monthly journal published by the college. During his connection with the Chicago College of Pharmacy, extending from 1867 to 1895, he occupied at various times the chairs of chemistry and of pharmacy; served as trustee and three terms as president

of the institution and was one of the leading spirits of the management of its affairs. Professor Bartlett resigned from the faculty of the school in 1895, much to the regret of his colleagues.

When the Chicago College of Pharmacy was taken over by the University of Illinois in 1896, the University, upon the request of the faculty of the school, conferred upon Professor Bartlett the honorary degree of Master of Pharmacy.

Professor Bartlett established himself in the drug business at 22nd St. and Indiana Ave., Chicago, in 1872, and conducted a pharmacy at that location continuously for more than forty years.

He is survived by two sons, Allyn and John Bartlett.

Professor Bartlett joined the American Pharmaceutical Association in 1864 and afterward became a life member.

Professor Bartlett was a representative of the best type of old-time pharmacists—exceedingly careful and conscientious in his work. He enjoyed the confidence of some of the best-known physicians in Chicago and the patronage of the wealthy people who at one time resided on Michigan Avenue and Prairie Avenue in the neighborhood of his store. With changing conditions this neighborhood of fine homes gave way before the inroads of business and Professor Bartlett could not adapt himself in his later years to the changed surroundings. In fact, he had little taste for commercialism and preferred to add to his income by analytical work and in this he was very expert. He continued this work up to a few months before his death and during the past five years had given much of his time to the manufacture of a dental cement. As a teacher, Professor Bartlett showed the same interest and care that characterized his work as a pharmacist. While he never sought popularity among the students, his classes always had the greatest respect for him and appreciated his ability as a lecturer. His passing leaves another gap in the ranks of the old-time pharmacists who were engaged in the drug business in Chicago before the great fire and those who were so active in the founding and promoting of the old Chicago College of Pharmacy which afterward became the School of Pharmacy of the University of Illinois.

W. B. DAV.

A. D. THOMPSON.

Albert Delano Thompson, president of the A. D. Thompson Drug Company, Minneapolis, and the Howard Chemical and Manufacturing Company, died recently from apoplectic paralysis. Mr. Thompson was born in St. Stephen, N. B., in 1861 and went to Minneapolis in 1866. He entered the drug business as an employe of the Gray & Hofflin Drug Company. Later the company was changed to the Hofflin-Thompson Drug Company and in 1899 to the A. D. Thompson Drug Company, which operated several retail stores. Mr. Thompson was twice president of the Minneapolis Retail Druggists' Association and once president of the Minnesota Pharmaceutical Association.

Mr. Thompson joined the American Pharmaceutical Association in 1895.

The following resolutions were adopted by the Minneapolis Retailers' Association:

"The Minneapolis Retailers' Association has long recognized and held in high regard the good citizenship of A. D. Thompson and the public spirited interest which he manifested in all matters pertaining to the welfare and progress of Minneapolis;

"He had long been one of the most honored members of this association and had taken an active and interested part in its achievements;

"In the breaking by death of the friendly ties that have long bound the members of this association to A. D. Thompson, the Minneapolis Retailers' Association has suffered a distinct loss that will be long felt and deeply deplored.

"The Minneapolis Retailers' Association extends its sincere sympathy to the family of A. D. Thompson in the sad bereavement, and to his many friends in their sorrow."

B. S. COOBAN.

Benjamin Slater Cooban, a prominent druggist of Englewood, Chicago, died De-

cember 31, after a two months' illness of diabetes.

Mr. Cooban was born at Petroleum Center, Pa., in 1866 and after serving an apprenticeship with H. C. Sanderson of Bradford, Pa., came to Chicago in 1888 and enrolled in the Chicago College of Pharmacy, from which he was graduated in 1889. Since 1892, Mr. Cooban conducted a successful drug store at 459 W. 63rd Street.



B. S. COOBAN

He was a member of the Illinois Pharmaceutical Association, Chicago Retail Druggists' Association and of the American Pharmaceutical Association since 1902.

He leaves a father, widow and son; the latter, Frank G. Cooban, attended the University of Illinois College of Pharmacy last year and is a registered assistant pharmacist.

W. B. D.

SOCIETIES AND COLLEGES.

MEETING OF THE NATIONAL DRUG TRADE CONFERENCE HELD AT THE NEW WILLARD HOTEL, WASHINGTON, D. C., JANUARY 16, 1917.

FORENOON SESSION.

The President, John C. Wallace, called the meeting to order at 10.25 A.M.

The roll being called, disclosed the following delegates present. Representing the American Pharmaceutical Association:

John C. Wallace, of New Castle, Pa.; S. L. Hilton, Washington, D. C.; J. H. Beal, Urbana, Ill.

Representing the National Wholesale Druggists' Association:

F. E. Holliday, New York City, alternate for Charles A. West, Boston, Mass.; C. Mahlon Kline, Philadelphia, Pa.; George W. Lattimer, Columbus, Ohio.

Representing the National Association of Retail Druggists:

Samuel C. Henry, Philadelphia, Pa.; James F. Finneran, Boston, Mass.; Eugene C. Brockmeyer, Washington, D. C.

Representing the American Association of Pharmaceutical Chemists:

J. Fred Windolph, alternate for R. Stofer, Norwich, N. Y.; George C. Pratt, Philadelphia, Pa., alternate for Dr. W. C. Abbott.

Representing the National Association of Manufacturers of Medicinal Products:

Charles J. Lynn, Indianapolis, Ind., alternate for Adolph G. Rosengarten, Philadelphia, Pa.; Dr. A. R. L. Dohme, Baltimore, Md.; Charles M. Woodruff, Detroit, Mich.

Representing the Proprietary Association of America:

Fred K. Fernald, of Elkhart, Ind.

Prof. James H. Beal then gave notice of certain proposals to amend the Code of Rules and Regulations and that he would move their adoption at the afternoon session. For proposals see minutes of afternoon session.

The following report of the Executive Committee was then read:

REPORT OF EXECUTIVE COMMITTEE.

To the Members of the National Drug Trade Conference:

Your executive committee begs to report that it held a meeting at the New Willard Hotel in Washington, D. C., Monday, January 15, 1917, at which were present the Chairman, John C. Wallace, the Secretary, Charles M. Woodruff, George W. Lattimer, James F. Finneran, J. Fred Windolph, representing R. C. Stofer and A. R. L. Dohme.

The Secretary-Treasurer then read his financial report, which was approved.

The adoption of the following resolutions by the Conference were then duly recommended:

Resolved, That each constituent organization be requested to pay an assessment of \$50 for the expenses of the Conference. To amend Section 8 of the Harrison Law.

WHEREAS, Various amendments to the Harrison act have been suggested, many of them imposing heavier burdens upon the drug trade than are made necessary by any purpose of the law; and

WHEREAS, The act has been as effective as

any law could reasonably be expected to be, and any further burden upon the drug trade would be unjust and oppressive; therefore, be it

Resolved, That we petition Congress not to amend the Harrison act in any other respect than the following:

Resolved, That Section 8 should be amended so as to read in part as follows:

Section 8.—It shall be unlawful for any person not registered under the provisions of this act and who has not paid the tax provided for by this act, to offer for sale or have in his possession for sale or under his control for sale, any of the aforesaid drugs, and possession or control by any person who has not registered under the provisions of this act, and who has not paid the special tax provided by this act, shall be prima facie evidence of a violation of this provision whether such person is a person enumerated in Section 1 of this act or not; provided, etc., as in Section 8 of the Harrison act.

Resolved, That the Conference approve of the recommendation made by the Commissioner of Internal Revenue in 1915 that some provision be made for the treatment of indigent persons unfortunately addicted to the use of narcotic habit-forming drugs where the operation of the law brings about conditions necessitating such treatment, but believes this to be a function of the State and not of the Federal Government; and that care should be exercised in such institutions to unduly exploit the law to their own pecuniary advantage.

Resolved, That recognizing the importance of the subject of compulsory health insurance and the evils of hasty and ill-considered legislation passed upon the initiative of bodies organized to promote such legislation; often *ex parte* as it were; this Conference earnestly recommends to the legislators of the various States in which bills for compulsory health or other compulsory social insurance may be introduced, that such bills be not passed for the present; but, instead that commissions be appointed of impartial men not committed on the subject to investigate the whole question from every angle; to give all interested an opportunity to be heard and finally to report their conclusions to the next sessions of their respective legislatures.

Resolved, That the president appoint a committee of three to draft suitable resolutions on the death of the late Dr. M. I. Wilbert.

KERN-DOREMUS BILL INDORSED.

Resolved, That the Conference unanimously

indorse the Kern-Doremus bill as the only adequate measure to give relief to art, industry and science respecting the mailing of legitimate articles, which though poisonous or containing poisons, are not outwardly or of their own force dangerous to life, health or property, and may be mailed with entire safety.

Resolved, That the meetings of this Conference be closed, to the end that delegates may feel greater freedom in discussion; provided, however, this resolution shall not prevent the Conference from admitting any person upon unanimous consent of all delegates present.

WHEREAS, The Revision Committees of the United States Pharmacopoeia and the National Formulary have established standards based upon the experience and improvements of pharmacists for all important drugs for which standards are desirable; and

WHEREAS, Custom has established standards for all important food products which are now generally recognized by laws, rules and regulations in various States; and

WHEREAS, Attempts to establish standards for other foods and drugs will tend to discourage initiative, research and improvement on the part of producers and manufacturers; therefore be it

Resolved, That the National Drug Trade Conference respectfully protest against the establishment of arbitrary standards for foods and drugs beyond those already made; and especially against attempts to establish standards for articles originally devised and introduced by producers and manufacturers, and for which such producers and manufacturers have already established standards based on their experience.

Resolved, That the Conference approve the passage by Congress of H. R. 18986, House Calendar No. 217, provided the same be amended by inserting after the word "liquors" in line nine, page one, the words, "or a manufacturer of or dealer in medicinal or toilet preparations, flavoring extracts or chemicals."

Resolved, That the Conference recommend the general adoption of the metric system as soon as practicable.

Resolved, That the president appoint a committee of three to inquire into and report as to whether the word "aspirin" will become public property after the expiration of the Hoffman patent on acetyl salicylic acid, and that the secretary-treasurer be authorized to pay the reasonable cost of such inquiry.

After reading these resolutions as a whole they were then taken up separately, discussed, and in due form adopted.

The President appointed Dr. A. R. L. Dohme, Prof. James H. Beal and Mr. S. L. Hilton the committee to draft resolutions on the death of Dr. M. I. Wilbert.

The President appointed Dr. A. R. L. Dohme, Mr. C. Mahlon Kline and Mr. Samuel C. Henry the committee to investigate and report on the aspirin situation.

A committee on nominations was also appointed by the President.

AFTERNOON SESSION.

The afternoon session was called to order at 3 P.M., all officers and delegates who had reported at the morning session being present.

Moved by Dr. J. H. Beal, seconded by Mr. C. J. Lynn:

To amend the third section or paragraph of Rule 2 to read as follows: "Duly appointed representatives of medical or pharmaceutical organizations not members of the Conference, or other persons, may be granted the privilege of the floor by vote."

"All votes for the admission of new members, or granting the privilege of the floor, and all discussions relating thereto shall be had in executive session."

To amend Rule No. 6 to read as follows: "The Conference shall hold one regular annual meeting in Washington at a time to be designated by the President, and such additional meetings as may be provided for."

"Special meetings may be called by the President at any time, and shall be called when so ordered by the Executive Committee or when so requested in writing by five duly appointed delegates. Except in case of emergency, not less than ten days' notice in writing shall be given of the time and place of all regular or called meetings."

To amend Rule 5 by adding the following: "Special committees shall be appointed by the chair unless otherwise provided for by motion."

Carried.

Moved by J. H. Beal, seconded by Mr. Finneran that the Code of Rules and Regulations as amended be rearranged under appropriate headings as follows:

Bring together Rules No. 1 and No. 3 under the heading "Section One—Name and Object."

Give to Rule 2, as amended the heading, "Section Two—Members and Delegates."

Assemble Rule No. 4 and Rule No. 5 as

amended under the head, "Section Three—Officers and Committees."

Give to Rule No. 6 as amended the head, "Section Four—Meetings."

Assemble Rules No. 7, No. 8 and No. 9 under the head of "Section Five—Rules of Order and Amendment."

Carried.

The Nominating Committee then reported the following nominations:

For *President*, John C. Wallace.

For *First Vice-President*, Samuel C. Henry.

For *Second Vice-President*, Dr. W. C. Abbott.

For *Third Vice-President*, C. Mahlon Kline.

For *Secretary-Treasurer*, Charles M. Woodruff.

On motion, duly seconded and carried, the ballot of the Conference was cast by the Secretary for the above named candidates and they were duly declared elected.

The following members of the Executive Committee were then duly nominated from the floor and elected by ballot: James H. Beal, George W. Lattimer, James F. Finneran, R. C. Stofer, A. R. L. Dohme, Fred. K. Fernald.

F. E. Holliday then read the report of the Board of Control of the National Wholesale Druggists' Association on the report of the Committee on Prevention of Adulteration, and, after considerable discussion, it was moved, seconded, put to vote and carried that the Conference approve of the report and give its support to the National Wholesale Druggists' Association's efforts to secure publicity and uniformity of standards by which the Department of Agriculture determines what drugs shall be admitted to the country under the Food and Drugs Act, and what shall not; and to secure appeal to the courts.

To this end Dr. A. R. L. Dohme, C. Mahlon Kline and Eugene C. Brockmeyer were appointed a special committee.

The Special Committee on Interpretation and Enforcement of Food and Drug Laws, reported progress, and on motion, duly seconded and carried, was continued with instructions to report at the next annual session of the Conference.

The Special Committee appointed at the last annual meeting of the Conference to report on Section 8 of the "Minimum Requirements with which Proprietary Remedies Should Comply in Order to Render Them Safe for Direct Sale to the General Public"

as adopted by the American Pharmaceutical Association reported and recommended that Section 8 be approved with certain eliminations leaving it to read as follows:

Section 8—*Incurable Diseases*.—The preparation must not be advertised or recommended as a cure for diseases or conditions which are generally recognized as incurable by the simple administration of drugs.

Report accepted and recommendation adopted.

Mr. Crause reported that he had seen Congressman Randall, author of H. R. 18986 to exclude alcoholic liquor advertising from the mails, and that Mr. Randall had accepted the amendment proposed at the morning session by the Conference, and thanked the Conference for its assistance.

Charles J. Lynn moved that the Executive Committee be instructed to secure a regulation effecting the keeping of proper records of Harrison Act drugs exported, provided the Committee did not find that such regulation already existed.

Seconded and carried.

Charles J. Lynn moved the matter of the Conference joining the United States Chamber of Commerce be referred to the Executive Committee with power to act.

Seconded and carried.

On motion the Conference then adjourned to meet at the call of the President.

CHARLES M. WOODRUFF, *Secretary*.

THE METRIC CONFERENCE.

The Metric Conference, which was held in New York on December 27th, resulted in the organization of the American Metric Association which will inaugurate a campaign of education among commercial bodies leading eventually to the adoption of metric units in this country.

The Conference opened on the morning of the twenty-seventh at a sitting of the Section on Social and Economic Science of the American Association for the Advancement of Science which was presided over by Dr. George F. Kunz, of New York, while Professor Seymour C. Loomis, of New Haven, acted as secretary.

At this session, the following papers were read:

1. "The Advisability of Adopting the Metric Standard of Weights and Measures in the United States," by George F. Kunz, Ph.D., Retiring Chairman of the Section.

2. "The Metric System from the Standpoint of Electrical Engineers," by Arthur E. Kennelly, Sc.D., A.M., of Harvard University and the Massachusetts Institute of Technology.

3. "The Metric System from the Pan-American Standpoint," by William P. Wells, LL.B., of the Pan-American Union, Washington.

4. "The Metric System in Everyday Life," by H. V. Army, Ph.D., of Columbia University.

5. "The Metric System from the Standpoint of the Wholesale Grocers and Canning Industry," by Fred. R. Drake, M.A., Ex-President of the National Wholesale Grocers' Association, Easton, Pa.

6. "The Metric System from the Standpoint of the Government," by H. D. Hubbard, Ph.D., Secretary of the Bureau of Standards, Washington, D. C.

7. "The Wholesale Druggists and the Metric System," by A. W. Miller, M.D., Chairman of the Metric Committee of the National Wholesale Druggists' Association, Philadelphia.

8. "The Use of Educational Apparatus Based on Metric Units," by Madame Montessori.

9. "The Metric System in the Far East," by Howard Richards, Jr., Electrical Engineer, New York.

At the afternoon session, at which H. V. Army, of New York, was chosen as temporary chairman, while Jeannot Hostmann, of New York, acted as temporary secretary, the following delegations were present:

From the National Wholesale Grocers' Association: F. R. Drake, of Easton, Pa.; Alfred H. Beckmann, F. N. Fiske and Arthur P. Williams, of New York.

From the Pan-American Union: William C. Wells, of Washington.

From the National Wholesale Druggists' Association: A. W. Miller, of Philadelphia; Thomas F. Main and Wm. Jay Schieffelin, of New York.

From the Philadelphia Bourse: Emil P. Albrecht.

From the American Chemical Society: H. V. Army, of New York; H. P. Talbot, of Cambridge, Mass.; and Eugene C. Bingham, of Easton, Pa.

From the National Association of Retail Druggists: J. J. Tobin, of Boston; O. W. Osterlund, of Philadelphia; T. S. Armstrong,

of Plainfield, N. J.; and Louis Berger, of New York.

From the American Institute of Electrical Engineers: Arthur E. Kennelly, of Cambridge, Mass.

From the American Institute of Chemical Engineers: George W. Thompson, of Brooklyn; and David Wesson, of Montclair, N. J.

From the National Association of Manufacturers of Medicinal Products: George Simon, of New York.

From the American Institute of Mining Engineers: George F. Kunz, of New York.

From the New York Branch of the American Pharmaceutical Association: Jacob Diner and Jeannot Hostmann, of New York.

From the National Association of Leather Belting Manufacturers: Louis W. Army, of Philadelphia.

In addition, a number of metric advocates not representing any specific organizations were present and took part in the proceedings.

The Chairman appointed Messrs. Drake, Miller, Richards, Diner and Simon a committee on organization. Letters of regret were read from a number of metric advocates who were unable to attend. These were followed by papers from Henry G. Bayer, of New York, and Joseph W. England, of Philadelphia; these being followed by an informal talk by Madame Montessori on the practical use of metric units in Italy.

The Committee on Organization then presented a constitution and a set of by-laws, which after some amendments were adopted and the American Metric Association was thus definitely launched.

A nominating committee consisting of A. H. Beckmann, of New York; A. E. Kennelly, of Cambridge, Mass., and Eugene C. Bingham, of Easton, Pa., brought in the following names for officers of the association for the coming year: *President*, George F. Kunz, of New York; *Vice-Presidents*, Wm. Jay Schieffelin, of New York, Emil P. Albrecht, of Philadelphia, and Orrin E. Stanley, of Portland, Oregon; *Secretary*, Howard Richards, Jr., of New York; *Treasurer*, Arthur P. Williams, of New York. All of these gentlemen were elected by unanimous vote.

After adjournment, President Kunz appointed as members of the Executive Committee: S. W. Stratton, of Washington; F. R. Drake, of Easton, Pa.; H. V. Army, of New York; A. E. Kennelly, of Cambridge, Mass.; and W. P. Wilson, of Philadelphia.

THE NATIONAL WHOLESALE DRUG-
GISTS' ASSOCIATION,
CHICAGO, 1917.

Some days ago at a meeting of men connected with the wholesale drug trade and allied interests, Chas. E. Matthews, manager of Sharp & Dolme's Chicago house, was chosen chairman of the Committee on Arrangements and Entertainment, along with an Executive Committee, composed of the following well-known gentlemen: G. T. Bauer, Frank M. Bell, Frank A. Blair, A. R. Brunker, William Buss, L. J. Freundt, A. J. Horlick, F. Keeling, Jr., A. S. Levis, Jas. W. Morrisson, Harold Sorby.

Chairman Matthews has appointed a number of committees and later on hotel headquarters, date of convention, as well as other particulars, will be announced.

ANNUAL MEETING MINNESOTA PHAR-
MACEUTICAL ASSOCIATION.

The Annual Meeting of the Minnesota Pharmaceutical Association was held February 13-15. As usual, an excellent program was provided. Dean F. J. Wulling presided over the Scientific and Practical Pharmacy Section. The Northwestern Branch of the American Pharmaceutical Association met jointly with this section. Part of the program presented follows:

1. A Symposium on the U. S. P. IX. Opened and closed by Mr. C. H. Bollinger, and on the N. F. IV, opened and closed by Mr. F. A. Upsher Smith.

2. Prescription Pricing, by Mr. Robert L. Morland.

3. The Prescription Counter, by Mr. R. Bartleson.

4. Prescriptions, and Prescription Compounding, by Mr. H. Martin Johnson.

5. Report of the Committee on Adulteration, by Prof. Gustav Bachman.

6. Fractional Percolation, by Mr. O. J. Blosmo.

7. (a) The 1916 Results of Medicinal Plant Cultivation for Educational Purposes at the College of Pharmacy, University of Minnesota.

(b) A New Source for Ergot.

(c) The Year Book and the JOURNAL OF THE A. PH. A.

(d) Some Notes on *Digitalis* with Special Reference to *Digitalis lutea*, by Dr. E. L. Newcomb.

8. The College of Pharmacy, University of Minnesota (Historical), by Dean F. J. Wulling.

9. Report of Committee on College of Pharmacy, by Chairman A. J. Kline.

10. An Exhibit of the New U. S. P. IX Preparations.

Thursday afternoon Professor Henry Kraemer, of the Philadelphia College of Pharmacy, delivered an illustrated lecture on Pharmacognosy in its Relation to the Practice of Pharmacy.

The Northwestern Branch of the A. Ph. A. held its Annual Meeting to elect officers for the ensuing year, immediately following the adjournment of the joint meeting.

MINNESOTA PHARMACEUTICAL ASSO-
CIATION DESIRES BACK NUMBERS
OF VARIOUS STATE PROCEED-
INGS.

Secretary E. L. Newcomb, of the Minnesota State Pharmaceutical Association, advises that they are having the proceedings of all State Associations bound, and in order to complete these files they desire some back numbers of nearly all the associations. Undoubtedly the secretaries have been advised, but frequently their files are not complete, or have only those required by them; individual members may have them and will be glad to be of assistance. Please write Professor Newcomb, care of the College of Pharmacy, University of Minnesota, and advise him of the proceedings of your association that you can supply.

PHILADELPHIA DRUG EXCHANGE
HOLDS FIFTY-SEVENTH AN-
NUAL MEETING.

At the annual meeting of Philadelphia Drug Exchange, held January 23, the following officers were elected:

President, John Fergusson; *Vice-President*, Harry B. French; *Treasurer*, Anthony M. Hance; *Secretary*, Joseph W. England; *Directors*, Charles E. Hires, A. Robinson McIlvaine, Dr. Adolph W. Miller, Harry K. Mulford, Adam Pfromm, Clayton F. Shoemaker, Richard M. Shoemaker and Walter V. Smith.

The annual report was presented by Clayton F. Shoemaker, and reviewed trade conditions and a look into the future. The conclusions as well as the review were optimistic.

An elaborate banquet was served at the Bellevue-Stratford, January 25. A fine musical

program was rendered and the speakers of the occasion were Dr. William E. Hughes, Dr. John G. Wilson, Thomas A. Daly, poet, and Ernest Trigg, President of the Philadelphia Chamber of Commerce. The address by Dr. Hughes was on Japan, and profusely illustrated with lantern slides. The doctor, wife and daughter spent last summer in Japan and the views were taken and afterward colored by them; therefore the personal touch was evident throughout and added materially to the very interesting lecture.

DR. GEORGE E. VINCENT HEADS ROCKEFELLER FOUNDATION.

Dr. George E. Vincent, head of the University of Minnesota, has been elected president of the Rockefeller Foundation.

Charles E. Hughes, of New York, Julius Rosenwald, of Chicago, and Dr. Wallace Buttrick, secretary of the General Educational Board, were elected trustees.

Edwin Rogers Embree, assistant secretary of Yale University, was elected secretary of the Foundation, succeeding Jerome D. Green, and John D. Rockefeller is chairman of the board of trustees.

TWENTY-FIFTH ANNIVERSARY OF PROF. GEO. C. DIEKMAN'S PRO- FESSORSHIP IN NEW YORK COLLEGE OF PHARMACY FACULTY.

A testimonial banquet was tendered Dr. Geo. C. Diekman, celebrating the Twenty-fifth Anniversary of his membership on the faculty of the New York College of Pharmacy, January 23. The happy affair was provided in the spacious dining room of the New York Drug and Chemical Club, which presented an over-flow gathering of pharmacists, physicians, chemists and friends of the honored guest.

Prof. C. F. Chandler presided as toastmaster. Many letters of congratulation were read from those who could not attend the function.

Presentation speeches were made by Dr. H. H. Rusby, Mr. Thomas F. Main, Dr. Pasquale Guerrieri and Mr. Keenan. Quite a number of the guests were called upon and spoke of the affectionate regard and high esteem in which the honored guest is held by all who know him. Doctor Diekman, in responding, expressed his deep appreciation of the honors bestowed upon him and the recognition his friends had given to his services, that he valued beyond expression the friendship and assistance of his associates in the various activities he was engaged.

STUDENTS VISIT CHEMICAL EXHIBIT AT MUSEUM OF NATURAL HISTORY.

On Saturday, January 27, and Monday, January 29, the students of the Department of Pharmacy and Dentistry of the College of Jersey City, visited the Museum of Natural History in New York City to inspect the Chemical Exhibit. This so-called "Exhibit of Chemical Preparations" has been arranged by the N. Y. Sections of the American Chemical Society, American Electrochemical Society and Society of Chemical Industry in conjunction with the Museum of Peaceful Arts. The following exhibits were of great interest to the students: Specimens of the various elements from their native state to their highest purity, the products of the electric furnace and from the air, which are of great value industrially, the coal-tar products, developed to a great extent in the United States, the medicinal products and dyes now manufactured in our country, the explosives exhibit, and the exhibition of metric weights and measures by the Bureau of Standards.

The historical exhibits of Joseph Priestley, of Lavoisier, of Pasteur and of Ramsay, also proved a great attraction. The students were accompanied by Dr. Otto Raubenheimer, professor of pharmacy and chemistry, and Dr. Emil Roller, director of the laboratories, who explained the various exhibits.

THE PHARMACIST AND THE LAW.

PHARMACY LAW PROVISIONS.

The following portions of suggestions for pharmacy law amendments or new laws are taken from the report of the Legislative Committee of the National Association of Boards of Pharmacy:

College Graduation Prerequisite.

On and after July 1, 1919, an applicant for examination as registered pharmacist must be twenty-one years of age, of good moral character and temperate habits, a graduate from a college of pharmacy, school of phar-

macy or department of pharmacy of a university which is recognized by said board, and furnish proofs of four years' experience. Actual time of attendance at the school or college of pharmacy from which the applicant is a graduate, but not to exceed two years, shall be accredited upon the required service of four years. The remainder of the experience required must have been in compounding and dispensing drugs, medicines and poisons under the supervision of a registered pharmacist in a drug store or pharmacy where the prescriptions of medical practitioners are compounded.

By omitting date and adding a proviso, as follows, the law may be made effective earlier:

Provided however, that an applicant who is registered as an apprentice or as an assistant pharmacist by said board at the time of the taking effect of this amendatory act shall not be required to furnish any proofs of attendance at a recognized school of pharmacy, college of pharmacy, or department of pharmacy of a university.

Reciprocity Clause.

The said Board of Pharmacy may, in its discretion, grant certificates of registration as registered pharmacists to such persons as shall furnish with their applications satisfactory proof that they have been registered by examination in some other state requiring a degree of competency equal to that required of an applicant in this state. Provided, however, existing requirements in this state shall not prevent the said Board of Pharmacy of this state from granting reciprocal registration to applicants whose experience, and results of examination, together with the proofs of qualifications upon which they were permitted to take the examination at the time of their registration in the states from which they apply, would have entitled them to registration as a registered pharmacist in this state at that time.

Note: It having been authoritatively held that State Boards can not make retroactive ruling, the above proviso is inserted so that applicants who were fully entitled to registration in this state at the time they were registered in the state from whence they apply may not be excluded from reciprocal registration because of subsequent change in the requirements of this state, such for instance as a prerequisite college graduation requirement.

The following are further suggestions relative to other portions of the draft:

Care should be exercised in not recognizing colleges or schools of pharmacy that do not provide for at least a two years' course in a recognized high school as a matriculation requirement, the object being to lead to a four-year high school, graduation requirement, at as early a date as possible, not later than January 1, 1920, in accordance with a recommendatory resolution adopted by the N. A. B. P. Convention held in San Francisco in 1915.

A provision of law creating the rank of Assistant Pharmacist will help materially to solve the problem of scarcity of clerks. At the same time it makes it possible for a registered pharmacist to temporarily leave his store in charge of an employee who is authorized by law of the state to conduct the business. Experience in states that make provision for the registration of Assistant Pharmacists has demonstrated that many clerks of this rank do not aspire to higher registration, but are content to accept good salaries and remain in the Assistant Pharmacist ranks. Candidates for assistant registration should be given specially prepared examination papers along decidedly practical lines and should include actual compounding of prescriptions.

The United States Pharmacopoeia and the National Formulary are recognized by the Federal Government in its enforcement of the Food and Drug Act, and are used as standards by the Medical Departments of the United States Army and Navy, and also by Medical and Pharmaceutical Colleges. In order to have legal recognition in the various states these books should be legalized by state laws which should also make it mandatory that every drug store or pharmacy be supplied with copies of the latest editions.

IT IS NOT GOOD POLICY TO SPECIFY IN A LAW THE SUBJECTS IN WHICH APPLICANTS MUST BE EXAMINED AND THE GRADES THEY MUST MAKE IN ORDER TO SECURE CERTIFICATES. By giving Boards of Pharmacy authority to make by-laws, they can meet all such matters as they arise, thus keeping pace with ever-changing conditions and insuring up-to-date examinations.

Members of legislative committees are also again referred to the report of the Voluntary Conference on Modern Pharmacy Law, in the December and January issues of the JOURNAL A. PH. A.

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of change of address is received before shipment or mailing.

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To 278 Dartmouth St., Boston, Mass.

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CHANGE OF ADDRESS SINCE DECEMBER 18, 1916.

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From Vancouver Barracks, Wash.

To Camp Hosp., Calexico, Cal.

JOHNSON, H. M.,

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To 4th & St. Peter Sts., St. Paul, Minn.

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From Stamford, Conn.

To 1637 Warren Ave., Chicago, Ill.

BURKETT, K. S.,

From 838 Ridge Ave., Pittsburgh, Pa.

To 1620 Antrim St., Pittsburgh, Pa.

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From 23 Vine St., Brooklyn, N. Y.

To 426 E. 4th St., Brooklyn, N. Y.

COUSINS, W. H.,

From 1804 Jackson St., Dallas, Tex.

To 1314 Wyoming St., Dallas, Tex.

KANTROWITZ, HUGO,

From 105 W. 94th St., New York, N. Y.

To 600 W. 178th St., New York, N. Y.

MAYER, P.,

From 111 W. State St., Marshalltown, Ia.

To 103 N. 2nd St., Marshalltown, Ia.

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From 273 Rich Ave., Mt. Vernon, N. Y.

To 192 Front St., New York, N. Y.

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To 7021 Bennett St., Pittsburgh, Pa.

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To 35 Poplar St., Philadelphia, Pa.

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To Cor. Northern & Evans Ave., Pueblo, Colo.

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From 324 S. 17th St., Philadelphia, Pa.

To The Gladstone, 11th & Pine Sts., Philadelphia, Pa.

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From 519 J St., Sacramento, Cal.

To 919 Front St., Sacramento, Cal.

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To 323 N. Rose St., Kalamazoo, Mich.

CHARRON, R. C.,

From 426 Newbury St., Boston, Mass.

To 164 Strathmore Rd., Suite 8, Brighton.

LUCK, J. A. W.,

From 2433 Telegraph Ave., Berkeley, Cal.

To Chem. Lab., Univ. of Cal., Berkeley, Cal.

SNOW, C. M.,

From 74 E. 12th St., Chicago, Ill.

To 701 S. Wood St., Chicago, Ill.

KRIEGER, J. C.,

From 118 Main St., Salamanca, N. Y.

To 104 Broad St., Salamanca, N. Y.

PFEIFFER, G. A.,

From 639 N. Broad St., Philadelphia, Pa.

To 115 E. 29th St., New York, N. Y.

SMITH, MARY L.,

From Waverly, Kans.

To Residence Unknown.

BRADLEY, J. F.,

From 1443 Ogden Ave., Chicago, Ill.

To Residence Unknown.

WALL, J. R.,

From 50 W. 12th St., New York, N. Y.

To Residence Unknown.

GIBSON, F. L.,

From 4141 Clarendon Ave., Chicago, Ill.

To U. S. Public Service, Washington, D. C.

WATSON, WM., JR.,

From 45 Howard Ave., Utica, N. Y.

To 1117 Howard Ave., Utica, N. Y.

SCHAEFER, HUGO H.,

From 198 Jefferson Ave., Brooklyn, N. Y.

To 115 W. 68th St., New York, N. Y.

McMAHON, JOSEPH,

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To 2755 E. 26th St., Sheepshead Bay, Brooklyn, N. Y.

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From 1715 Cherry St., Philadelphia, Pa.
To 601 Lees Ave., Collingswood, N. J.
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To 901 W. Jefferson St., Dallas, Tex.
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To 203 Bagley Hall, Univ. of Wash., Seattle,
Wash.
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From Stratton, Neb.
To Deadwood, S. Dak.
- HESSLER, E. H.,
From 2016 N. 17th St., Philadelphia, Pa.
To 4625 Camac St., Philadelphia, Pa.
- OUELLET, E. J.,
From 28 William St., Cambridge, Mass.
To 781 Tremont St., Boston, Mass.
- ADAMS, C. H.,
From 402 Upper Main St., Henderson, Ky.
To c/o Fogas Drug Store, Mt. Vernon, Ind.
- HENRY, A. M.,
From Homestead, Fla.
To Tallahassee, Fla.
- STEWART, H. E.,
From Box 218, Jacksonville, Fla.
To 1090a, Jacksonville, Fla.
- MALLARD, A. E.,
From 287 Woodward Ave., Detroit, Mich.
To 30 Adams Ave., Detroit, Mich.
- SMITH, I. C.,
From Ocilla, Ga.
To St. Augustine, Fla.
- DUMÉZ, A. G.,
From 612 Howard St., Madison, Wis.
To 135 W. Gilman St., Madison, Wis.
- CHURGIN, J. S.,
From 2023 Washington Ave., New York,
N. Y.
To 1070 Washington Ave., New York, N. Y.

WAR DEPARTMENT.

List of changes of station during January, 1917, in the cases of Sergeants First Class, and Sergeants, Medical Department.

SERGEANTS, FIRST CLASS.

William S. Howson, from the U. S. A. Transport "Sumner," to Jackson Barracks.

Algernon van Aller, from Fort Wood, to Fort Warren.

Louis F. Seith, from Fort Warren, to Fort Wood.

SERGEANTS.

Raymond F. Harding, from Fort Bayard, to the Philippines Department.

John Eiler, from the Army & Navy General Hospital, to the Philippines Department.

James D. Miller, from the Southern Department, to Columbus Barracks.

Byron R. Gates, from the Hawaiian Department, to the Southern Department.

Charles H. Dabbs, from the Southern Department, to Fort Hamilton.

Ignatius B. Thomas, from the Army Medical School, Washington, D. C., to Southern Department.

John C. Barry, from Columbus Barracks, to the Southern Department.

BOOK NOTICES AND REVIEWS.

A Manual of Materia Medica and Pharmacology. Comprising all organic and inorganic drugs which are or have been official in the United States Pharmacopoeia, together with important allied species and useful synthetics, especially designed for students of pharmacy and medicine, as well as for druggists, pharmacists, and physicians. By David M. R. Culbreth, Ph.G., M.D., professor of botany, materia medica, and pharmacognosy in the Maryland College of Pharmacy, department of the University of Maryland, Baltimore, Md. Sixth edition, with four hundred and ninety-two

illustrations. Lea and Febiger, Philadelphia and New York, publishers. Price, \$5.25.

The extensive use of this book for teaching and reference purposes has been merited by the able and comprehensive manner in which the author treats the various subjects included in the above title.

The chapters devoted to administration, application and modified action of drugs give the student an understanding of those fundamentals so essential to the study of pharmacology.

Drugs from the vegetable kingdom are

arranged according to natural orders beginning with the lower forms of life, the next related following in sequence. The etymology of names employed, descriptions, commercial discussion, adulterations and allied drugs are treated from the standpoint of the pharmacognosist and contribute largely to the practical value of the work. Drugs of animal origin are arranged in accordance with zoological sequence and discussed in a like manner. Inorganic drugs and carbon compounds are arranged according to chemical relationship.

This edition has been made to conform to the changes in the ninth revision of the United States Pharmacopoeia and includes most of the drugs and preparations of the National Formulary, fourth edition.

Drugs and preparations of the National Formulary are not accredited to the N. F. drugs being discussed under allied plants, *Dulcamara* as allied to *Capsicum*, nor are the definitions and descriptions those of the N. F. Preparations are listed under unofficial preparations, due credit being given to the British Pharmacopoeial preparations only. Unofficial preparations under *Senna* are listed as *Confection*, *Extract*, *Infusum Sennae*, (Br.) *Aromatic Syrup*, *Compound Syrup*, *Tinctura Sennae Composita*, (Br.) *Species Laxativae*. The National Formulary should receive due recognition.

Plant descriptions have been partly rewritten and include added descriptions of powdered drugs. The manufacture of official preparations are given as heretofore but volume quantities are expressed in milliliters, the abbreviation *ML.* being used. The same in dosage; *e. g.*, *Fluidextract of Ergot*, dose *m. xv-lx* (1-4 *ML.* (Cc.)). The use of this abbreviation will be confusing to a degree in that it will not conform in this respect to works on allied subjects. Assay processes have properly been omitted. The list of plant constituents has been revised to conform with recent knowledge of plant composition.

The inorganic and organic carbon compounds have been revised to conform to the U. S. P. and N. F., while a number of non-pharmacopoeal organic compounds have been added.

The chapters devoted to the microscope, and in the appendix the discussion on poisons and the various tables of weights and measures, doses, etc., remain the same as in the previous edition.

In a work of this kind doses should occupy a position of major importance. Unfortunately

they are obscurely placed without having been given due prominence.

Therapeutic properties and uses of drugs have not been revised but have been rewritten. This has not been an improvement as the sentences are longer and more involved, making it difficult for the student to grasp their meaning.

The intent of the author to "bring all subjects within current scientific thought," has not been carried out in respect to the properties of drugs. In the light of modern researches in pharmacodynamics many terms and statements are inaccurately applied or are misleading.

Sanguinaria "in small doses excite the stomach, while large doses nauseate and depress the pulse; full doses vomit actively."

Belladonna "increases peristalsis by paralyzing terminations of involuntary intestinal muscles; dilates pupil, increases pulse and urine by paralysis."

Serpentaria is described as having the following properties: "Stimulant, tonic, diaphoretic, diuretic, emmenagogue, aphrodisiac, antiperiodic, like *calumba* promotes appetite, digestion, increases bronchial and intestinal secretions, heart action, mental exhilaration."

Such statements are not applicable to a drug that should be classed as an aromatic bitter.

Taraxacum, a drug conceded to be therapeutically useless, is said to be "diuretic, tonic, stomachic, aperient, deobstruent. Uses: Congestion and inflammation of the liver and spleen, dyspepsia, constipation, consumption, skin affections, dropsies, substitute for coffee."

These instances, selected at random, show that this important part of the book did not receive the attention to which it was entitled. This detracts somewhat from the value of an otherwise excellent book.

C. A. DUNCAN.

Publications Received.

Proceedings of the American Association of Pharmaceutical Chemists, Ninth Annual Meeting, held at Cedar Rapids, Ia., May 29 to June 1, 1916.

Reports of the Twenty-Sixth Annual Meeting of the South Dakota State Board of Pharmacy, and Thirty-First Annual Convention of the South Dakota State Pharmaceutical Association, held at Mitchell, August 8-11, 1916.

Twenty-Eighth Annual Report of the Louisiana State Board of Pharmacy, May 8, 1916.

JOURNAL ANNOUNCEMENTS.

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Membership: Applications for membership in the American Pharmaceutical Association may be made of any of the officials. The annual payment of five dollars covers the annual dues and subscription to the JOURNAL. Members receive, also, the publications of the Association that are distributed free of charge.

Further information will gladly be furnished by any of the officers of the Association and members.

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SHOW YOUR INTEREST IN PHARMACY.

Honorary President, J. O. BURGE, suggests that members of the American Pharmaceutical Association should profit by their membership in this organization. He suggests the use by members of the insignia on their stationery and prescription blanks. Efficiency on the part of the member will make this mark indicative of, and become associated with, reliable pharmaceutical service.

If there is a desire on the part of members for such a cut, the JOURNAL will have type made, about the size of the one shown. The price of the cuts, including cost of mailing, will be fifteen cents each.

Please let us hear from you, so we may determine whether the expense of having the type made is warranted.



THE JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

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CHARLES FREDERICK CHANDLER
NEW YORK

Member American Pharmaceutical Association, 1867-1917



CHARLES FREDERICK CHANDLER

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. VI

MARCH, 1917

NO. 3

CHARLES FREDERICK CHANDLER.

With few exceptions, the sketches which appear on this page are not intended as complete records of the activities of these individuals, but, in a measure to honor those who have directly or indirectly contributed largely to pharmacy, and while they are still with us. The following data of a useful life will therefore only briefly speak of the beneficent influences exerted by the subject and the valuable services rendered by him in other departments of science, through which humanity has benefited.

Charles Frederick Chandler was born in Lancaster, Mass., December 6, 1836, the son of Charles Chandler, a merchant of New Bedford. The American ancestry of Dr. Chandler is traced back to William Chandler who came from England in 1637 and settled in Roxbury, Mass.

The subject of this sketch attended school in Lancaster and New Bedford and even his younger years indicated the scientific trend of his mind, for his vacations were spent in collecting minerals and listening to lectures in the town lyceum by Prof. Louis Agassiz. After studying in the Lawrence Scientific School, where he received further instruction from Prof. Agassiz, he went abroad and took courses in the Universities of Berlin and Göttingen. At the latter university he studied under Professors Wöhler and Weber, and later, coming to the University of Berlin, he studied mineralogy with Prof. Gustav Rose, physics under Prof. Dove, and applied chemistry under Prof. Magnus.

Through the influence of Prof. Wöhler and Prof. Joy, he obtained the position of private assistant to Prof. Heinrich Rose. In 1856, he received the degree of "Ph.D." from the University of Göttingen, for his researches in mineral chemistry.

Early in the following year Prof. Chandler returned to the United States and accepted the position of chemical assistant at Union College, Schenectady, in the newly established laboratory under Prof. Charles A. Joy. The latter came to Columbia College in April of the same year, when Prof. Chandler succeeded him and remained with this institution until 1864 when he joined the Columbia faculty, and with Prof. Egleston and General Francis L. Vinton established the Columbia School of Mines, which from the very beginning was a success. Prof. Chandler was made dean of the faculty and professor of analytical and applied chemistry. In 1872, he became adjunct professor of chemical and medical jurisprudence in the College of Physicians and Surgeons, and held this position for nearly twenty-five years.

Soon after coming to New York City, Prof. P. W. Bedford requested Prof. Chandler to aid in the development of the College of Pharmacy in the City of New York, and this additional work as professor of chemistry, he also accepted

and retained active connection until a few years ago, and still evidences a deep interest for pharmacists and that institution, expressed in his own words at the Testimonial Dinner tendered to him March 28, 1910.

"Wherever I see the green and red lights of the apothecary in New York there I know I have a friend. I never go into a drug store but that some one comes up and tells me he was of the class of '69, of '80, or possibly a junior student still. Sometimes they are boys but newly matriculated at college. Sometimes they are old gray haired men whose stooping shoulders and faltering footsteps make them seem older than I myself; always they are friends. This has been my highest reward, this has been my most cherished compensation. The feeling that I may have helped in the upbuilding of the institution, have aided in the formation of the minds of the rising generation of pharmacists and that this help has brought me the friendship of my students is a source of pride and will remain a source of pleasure so long as I live. Although this has been announced as a farewell address, I shall not say farewell, for so long as I am able to go anywhere, I shall come to the meetings of the New York College of Pharmacy, there to meet the friends of a lifetime, dear friends, from whom I hope never to part."

Professor Chandler has received the following degrees: Master of Arts and Doctor of Philosophy in 1856, from the University of Göttingen; Doctor of Medicine in 1873, from University of New York; Doctor of Laws in 1873, from Union College; Doctor of Science in 1900, from Oxford University. It is needless to enumerate the various American and foreign associations and societies of which he is an honored member. He took part, as president, in the centennial of the discovery of oxygen at Priestley's home in Northumberland County, Pa., in 1874, and it was out of that celebration that the American Chemical Society, of which he was twice elected president, grew. He was chosen president of the Society of Chemical Industry in 1899, the first American to receive this distinction. He became a member of the American Pharmaceutical Association in 1867 and hence this year he celebrates the golden anniversary of his connection with this organization.

Professor Chandler's work aside from teaching has largely been in industrial chemistry and his thoroughness emphasized in his courage and sincerity of purpose. An attempt at giving a summary of his services for the University, City, State and Nation would not do him justice. So let it suffice to say that whatever he undertook to do, he did thoroughly, and everywhere and always he had the performance of duty in mind.

Commemorating the long years of useful services, a number of pleasant functions were arranged by the departments of Columbia University and other organizations, following Professor Chandler's retirement in 1910.

Professor Chandler was elected first honorary member of the Society of Older Graduates of Columbia and a beautifully engrossed certificate of membership presented to him. The testimonial of the Chemists of America took the form of a bronze bust of Doctor Chandler, in heroic size, executed by J. Scott Hartley, presented by him to the Chandler Museum of Columbia University; a replica of this bust was presented to Mrs. Chandler, who gave it over to the keeping of the Chemists' Club; the Chandler Testimonial Fund was also established for the purpose of purchasing books for the library of the Chemists' Club. The College of Pharmacy presented several loving cups and engrossed resolutions of appreciation; similar action was taken by other departments of the University. The alumni of the University provided for the Chandler Lectures, and a gold medal to be given to the lecturer; the fund so created is known as the Charles Frederick Chandler Foundation. The chemical museum was named the Chandler Chemical Museum, Professor Chandler was elected emeritus professor and many other distinctions and recognitions were given him.

A testimonial number of Columbia University Quarterly was published June, 1910, and named for Professor Chandler, in which the many interesting events of his life are given with some detail, and more particular reference is made

to the tributes paid him by officers, faculty, alumni, fellows, and representatives of scientific and other institutions and organizations.

The following lines from the address of Dean John Howard Van Amringe will serve to close this sketch: "You learned from him not only chemistry, but habits of mind and thought, lessons of life and conduct so administered as to burn them into your consciences and leave behind no wound or scar. His wit and humor played over all his discourse, and his illustrative anecdotes and stories have become college classics. Think of the educative and constructive power exerted by such a man, working for nearly half a century with young men now scattered all over the globe, and of his continuing influence, through his pupils, on generations to come."

E. G. E.

WILLIAM CHARLES ALPERS.

The sad news conveying the information of ex-President Alpers' death came after the matter prepared for this section had been put in type; several pages are devoted to his memory under Obituary. For other biographical references, see also Vol. III, p. 1722, and Vol. IV, pp. 1014, 1086.

William Charles Alpers, ex-President of the American Pharmaceutical Association, died February 20, 1917, at his home in Cleveland, Ohio. While the news was not unexpected to those who were advised relative to his impaired health, the announcement came as a shock to his many friends and is a source of regret and sorrow to the members of the American Pharmaceutical Association and pharmacists generally. Doctor Alpers had been ailing for some time, but neither he nor his family were much alarmed over his condition; soon after returning to his home, however, for the opening of the Cleveland School of Pharmacy, of which the deceased was dean, an operation was advised which disclosed the serious condition, that a number of months later terminated his life.

The first paper presented by Dr. Alpers before the American Pharmaceutical Association was read at the Denver meeting in 1895, and entitled "Proposed Curriculum for Candidates before Boards of Pharmacy," and the year following he contributed a paper on Gelatine Capsules. Both attracted considerable attention; since that time the indices of the Proceedings and JOURNAL evidence the activities of the deceased for pharmacy and the Association. He was also a frequent contributor to other pharmaceutical journals and societies, and was associate editor of *Deutsch Amerikanische Apotheker Zeitung*; the sketch of Doctor Alpers under Obituary is contributed by Editor Hugo Kantrowitz of that publication.

Dr. Alpers was, at the time of his demise, a member of the Council of the American Pharmaceutical Association and was twice, during previous years, vice-chairman of that body. He presided as chairman of the Scientific Section in 1897, of the Section on Practical Pharmacy and Dispensing in 1906, of the Section on Historical Pharmacy in 1914, and was president of the Association 1915-1916.

He was a member of the Revision Committee, U. S. P. IX, and chairman of the sub-Committee on Syrups and Elixirs. He was an ex-president of the New Jersey Pharmaceutical Association and for a number of years a member of the State Board of Pharmacy.

The earthly record of an active life has been closed in the passing away of Dr. William C. Alpers, the sixty-third president of the American Pharmaceutical Association.

EDITORIAL

E. G. EBERLE, Editor

253 Bourse Bldg., PHILADELPHIA

THE MENACE OF COMPULSORY HEALTH INSURANCE.

THE United States seems to be facing an era of socialistic legislation, and it behooves the business men of the country to bestir themselves if they would escape one blow after another at their continued success or even existence.

During the last two or three years a group of academic philosophers have sought to foist on America the principle of compulsory health insurance. Bills were introduced in three legislatures last winter, and others are pending at this very minute in the legislatures of Connecticut, Massachusetts, Ohio, New York and Michigan. Before many weeks go by, these measures will make their appearance in still other legislatures throughout the country.

What does compulsory health insurance mean to the druggist?

It pretty nearly means the destruction of his pharmaceutical business. The scheme provides that every manual laborer and employee of any kind who receives less than \$1200 annually shall be a beneficiary. If he suffers from illness or accident, he shall receive two-thirds of his normal pay while laid up, and he shall be provided with free medicine, free medical service, free surgical service, free hospital service, and even free funeral and death benefits. If any members of his family are sick at the same time, they also shall be brought within the scope of the protection. Women undergoing maternity at the time of their employment are to be surrounded with the same beneficent care.

Inasmuch as three-fourths of all wage earners are paid less than \$1200 a year, it is evident that three-fourths of the pharmaceutical business of the druggists of the United States will be deflected to the "operating units" or quasi-public dispensaries that are to form a part of the plan. How will the druggist relish the idea of losing 75 percent of his pharmaceutical trade?

More than that, the druggist must also suffer as an employer. Forty percent of all this insurance cost is to be borne by employers, 40 percent by employees, and 20 percent by the State. The druggists' clerks automatically become compulsory beneficiaries, as soon as the law is enacted, and that very instant the druggist begins paying a tax involving every employee in his store.

And of the 20 percent of this tremendous expense borne by the State, it need only be said that this also harks back to the druggist as it does to all other citizens. It has been carefully estimated by statistical experts that in the State of Indiana the adoption of compulsory health insurance would increase the State taxes from \$1,600,000 to \$6,800,000. Think of it! In Ohio the State taxes levied against real and personal property would jump from \$3,300,000 to

\$13,700,000, and in New York State the increase would be from \$20,000,000 to \$41,000,000.

Already the burden of taxation has been sufficiently increased within the last year or two. Corporations have been particularly affected—and there are corporations in the retail drug business as everywhere else. Within the last two years corporations have been made to pay an income tax of 2 percent on their net profits, and they are also paying 50 cents for each thousand dollars of their capitalization. If the so-called excess-profits tax is imposed by Congress, as it probably will be before this article is published, it will mean a still heavier drain upon all corporations and partnerships in the drug trade and elsewhere. If a drug company, having sales of \$100,000 a year, earns a net profit of \$10,000 on assets of \$20,000, it will be allowed by the government to escape taxation only on the first 8 percent, plus \$5000 of general exemption. Eight percent of \$20,000 would be \$1600, making \$6600 of total exemption, and on the remaining \$3400 the company must pay 8 percent—a nice little figure of \$272!

Add to these burdens the threat of compulsory health insurance and it is about time that the druggists of America began to stand up for their rights. If they don't, they are likely to be engulfed with losses and impositions of a hundred kinds. Compulsory health insurance is one of the most visionary schemes that was ever foisted upon a credulous people, and it ought to be given its death knell at the very outset of the movement. It isn't needed. It wouldn't work. It is open to a thousand objections, and business men of all kinds should see to it this winter that the State legislatures of the country are set right on the proposition.

With here and there an exception, the great body of organized labor is against the movement. Samuel Gompers himself is particularly opposed to it. The workman sees that compulsory health insurance would in the end cost him much more than private insurance costs him, and on general principles he is afraid, and justly afraid, of the political management in America of what really ought to be private enterprise. More than that, a shrewd laborer realizes that compulsory health insurance will mean that employers, out of sheer self-protection, will reject every man whose health is not of the best. The "army of the unemployed" would become a substantial fact instead of a figment of the imagination.

The National Drug Trade Conference, organized under the aegis of the American Pharmaceutical Association, has taken its official stand in opposition to compulsory health insurance, and it has decided to do what it can to defeat the movement. The American Pharmaceutical Association, as the leading spirit in the Conference, will of course support this attitude, and it remains for the legislative committees of the various State pharmaceutical associations to get in line and help defeat one of the most serious threats with which the American druggist has ever been faced.

HARRY B. MASON.

HOW TO GET THE MOST OUT OF AN ASSOCIATION.

THE only way to get the most out of an association is to put much into it. The members of an association are interdependent; every thought and action by the individual affects to a greater or less degree every other one—the association. The motives of the members make the association what it is, and these are manifested in deeds and actions and reflected in and by them. Comparatively few of the members think about the association and yet the success of it depends upon their thoughts—activated thoughts.

The permanence and growth of an association depends on a coördination of varying traits and qualifications of the individuals. This is what enhances the work of an organization, of a government, over that of an individual. The individual would develop those ideas, or things he is familiar with, those that appeal for one reason or another to him, but these alone can not constitute a government nor give perfection to an organization. As the individual's elevation of character and quality is dependent upon his ideals, so also is that of an association dependent upon these ideals, not of the one but of the many, and so long as these ideals are high, even though they differ in kind, if there really is aspiration to reach them, there will be progress.

A representative city has its commercial and manufacturing enterprises, its educational and religious organizations, in which the citizens exhibit their individual or composite ideals. There is a difference, but the high aspirations involve right service. So an organization represents different types and varying qualifications, and while the ideals of the individuals are not the same, there is a predominant spirit of altruism in every successful association.

A municipality not only fosters worthy enterprises, but like life, the good is checkered with evil. And organizations have their defects, their mal and miscontents. Every enterprising city has its carping critics and its lifters, within and without—individuals and aggregates. The municipality owes its progress to those who work for its development, without predominating thought of self, with a willingness, with a genuine purpose to benefit others, with a vision that comprehends the efforts of others. The outside influences may create a doubt in the minds of patrons in contributing territory relative to the ability of caring for their needs; instil a spirit of resentment through charges of disregard for their patronage, and thus the possibilities of a growing metropolis are hampered. Within, one industry may antagonize the other, for preferential or other reasons, the citizens may become indifferent or lose confidence, and thus an industrial center, instead of growing becomes dwarfed, for no other reason than that the spirit of coöperation is chilled, not because the opportunities are less but because of an artificial prejudice. So also an association may have some discontents. This does not mean that the purpose of the organization will not prevail, however serious or un-

desirable the hindrances may be. There may be carping critics within, or certain plans of the association may not have the approval of those without, or other disturbing influences. Instead of stopping the leak, there is an attempt to enlarge it. The whispered gossip becomes a thundering charge. One may view the cloud as an impending catastrophe, while another awaits the clearing atmosphere. Sincere, active coöperation, loyalty and restoration of confidence are essential to a successful outcome.

Frederick Oakes Sylvester wrote:

"I like the man who goes
Not songless to the common tasks of life,
But twines a flower round his tools of trade;
Who boasts not what he does, nor what he knows;
Who brings no sword but love to conquer strife;
And, king of self, of nothing is afraid."

Having drawn comparisons that may be made between a municipality, or a government, and an association, a few thoughts relating more particularly to associations and their constituency are presented, and should be taken as general views, not of any specific organization. We are agreed that associations are helpful and this constitutes the chief reason for their organization; not to build up in order to see how much more quickly they may be destroyed, but to be continued for permanent good of the members.

The history of an association should not be so much a record of words but of acts, and so the influence of the organization is not measured by years but by achievement. Therefore the service of the member is measured by constructive deeds, upbuilding, lifting, pulling, purifying, ennobling. And on the other hand the value of a member can not be estimated by the harmful things he has refrained from doing but only by the real good he has done for the association. Keeping silent may not discourage, but certainly does not encourage; the act of helpfulness is what is needed. The inactive member may not take part in destruction, neither does he hold the hand that would do so. He may not pull back, but those who shoulder the burdens of the association have no help from him and carry him; he uses the benefits of association but contributes none; he shares the fruits of the association labor, without having had part in their cultivation. Active participation is what is needed.

Adam Smith says, "Let every man be occupied, and be occupied in the highest employment of which his nature is capable, and die with the consciousness that he has done his best."

The optimistic member looks upward and presses forward; he sees the possibilities of coöperative and coördinated endeavor, while he who is pessimistic looks backward and downward, halts in contemplation of fear that someone may profit more than he, disparages the integrity of his confrères and declares his doubt in

their ability. The former expresses confidence, lends a helping hand and hopes to do more, and says, "I will;" while the latter magnifies his own virtues, minimizes those of others, lauds his own work and criticizes that of others.

As in every-day life so within an association, the human trait of criticism is largely responsible for hindering progress. And not alone that, it may make enemies of friends, engender envy, jealousy and dislike; makes antagonists out of coöperators. Openly spoken, this is perhaps not so vicious as under the pledge of secrecy which seldom is preserved, to emphasize the weakness of others and to minimize their good points, to drag forth the skeleton from the closet rather than hold up to view the beauty of the living.

William Penn said, "In all debates let truth be thy aim, not victory, or an unjust interest; and endeavor to gain rather than expose thy antagonist."

DeWitt McMurray says, "The greatest charity is that which attributes honest motives to others; which sees good where less just and less loving eyes might see evil."

Count Tolstoi said:

"Men think there are circumstances when one may deal with human beings without love; and there are no such circumstances. One may deal with things without love; one may cut down trees, make bricks, hammer iron, without love; but you can not deal with men without it, just as men can not deal with bees without being careful. If you deal carelessly with bees you will injure them, and will yourself be injured; and so with men."

The growth of coöperation makes for the growth and strength of an organization, and reversely, the importance of the work for which the association is established can be measured by the degree of coöperation among its members. That which has little importance, brings to it little support, and the outside world accepts the judgment of the votaries. It is therefore most essential, if an association desires an appreciation of the work for which the members are enlisted, that they themselves become enthusiasts. It is the service in and for the association that brings out the best that is in the member and thereby he as well as his confrères become beneficiaries. An association may be put into innocuous desuetude by destroying its possibilities for doing work. Not every organization can stand the same jolts, nor continued quakes.

Thinking must join with intelligent conception of the purposes of the association. Those who think right are moved by reason; those who think wrong by impulse. The impetuous and impulsive are erratic and can not arrive at conclusions which are gained from intelligent and logical deductions. Right thinking is constructive and leads to success; wrong thinking is destructive and leads to failure.

E. G. E.

A DISCUSSION OF COMPULSORY HEALTH INSURANCE.*

BERNARD FANTUS, M.D.

There are two questions in connection with Health Insurance that must be settled, and which should not be confused with each other. The first question is, whether this form of insurance is necessary or desirable; and the second question, what is the best method of obtaining the result aimed at. Nearly everything that has been said against Compulsory Health Insurance may be characterized as objections to method. Very little has been said against the desirability and the necessity of this protection. To stigmatize this movement as pauperizing or charity is just as erroneous as it would be to stigmatize life insurance or fire insurance in this manner. It would be well if everybody, even the moderately well-to-do, would combine and elaborate a plan for themselves, by means of which they could obtain good medical, nursing and hospital service without additional expense to them when they are sick; for that is the time, when they are least able to pay for it. A plan of this kind has been beautifully elaborated by Richard Cabot in an article entitled "Better Doctoring for Less Money," published in the *American Magazine*, in which the desirability of "group practice" by physicians has been strongly emphasized. The health insurance plan, as proposed, includes the elaboration of group practise to whatever extent practicable. It, indeed, aims at "better doctoring for less money."

Health insurance properly elaborated would be a great thing, not only for the laboring man but for everybody, excepting possibly the extremely rich. I believe no one can dispute the proposition that the time to take care of sickness is while one is well. The provident naturally do this; and ought to be glad to avail themselves of a good system of obtaining this result. The improvident ought to be made to provide. I, therefore, see no possible objection to the desirability and necessity of the proper kind of health insurance.

As to the second question, the one referring to method, a great deal will have to be said. While the public might be provided with better doctoring for less money, this would not necessarily mean that physicians and others such as pharmacists would necessarily receive insufficient pay for their services, for there is at present a great waste of time and effort, a waste of time while doctors are waiting for patients and effort in making long distance calls into territory that should properly be taken care of by one nearer home. Doctors could accomplish a great deal more and would not be obliged to charge as much for their services. There would be no necessity for charity work, and there would be no bad debts; hence, it would be possible to work for smaller fees, and yet earn more in the end. It behooves pharmacists and physicians to study this question of method very carefully indeed. For this reason, I move that a committee be appointed by the chair which is to be charged with the duty of investigating the plan proposed at the present time, and reporting to the society the results of their investigations, in the near future.¹

* Chicago Branch A. Ph. A., January 1917 meeting. See also JOUR. A. PH. A., p. 1166, November 1916 issue; p. 1407, December 1916; p. 41, January 1917 number.

¹ Such a committee was appointed by Chicago Branch A. Ph. A., Dr. J. H. Beal, *Chairman*.

Compulsory Health Insurance coöperatively conducted by all the individuals of a state or nation, it appears to me, should be of the greatest value to the individuals of such state or nation for the following reasons: First, because it should tend to raise the standard of the public health; second, because it should provide the best medical treatment during sickness for each individual of the state; third, because the benefits mentioned under points first and second should be obtained at a low per capita cost.

If all the individuals of a state are not included under the compulsory insurance, class legislation at once results. If the insured are limited to those earning \$100.00 per month or less and the insurance is a good thing, then the person receiving \$105.00 per month thinks he should be included. I have heard mention of pauperism applied to this insurance scheme. If all persons without regard to their property possessions are included, then the charge of pauperizing immediately falls. Furthermore if a very slight percentage tax be placed on every income, the resulting amount would be sufficient to carry the whole insurance scheme without being onerous to the poor or to the rich. Such a tax on the boy or girl earning \$5.00 per week probably would not exceed \$2.50 per year.

Again, I believe that if this is to be a state law that the state should exclusively handle the administration of the whole law. If existing insurance associations among the employees of a certain factory or business are especially worthy they can continue to exist even after the state insurance has been established. State health insurance would not interfere with life insurance nor with pension associations. The payment of the insurance tax by the individual should be collected at the source of income by means of stamps and the tax should be entirely paid by the individual not partly by the state and partly by the employer.

Regarding the second point that all should receive the best medical attention, there seems to be no doubt that if the entire medical resources of the state, including hospitals, asylums, sanitariums, laboratories, quarantine and inspection service, medical, dental, pharmaceutical and nursing service be combined and coördinated into one harmonious whole that every citizen could have the best treatment that medical science affords. Not alone would all receive proper treatment in sickness but the amount of sickness and the death rate from sickness would be materially reduced.

However, the draft of the Compulsory Health Insurance law now under discussion inspires about as much confidence in me as in you. It is distinctly class legislation, drawn in the interests of labor organizations, designed to tax the state and the employer for a large share of the cost of the insurance. It appears to be very complicated in its administrative features and provides for many new political berths which will of course attract the politicians. The proposed bill has most of the features of the English Health Insurance Act which is being much condemned.

As pharmacists, if the English pharmacist's experience is any criterion, we had better stay out of it. For, in England, while it is true that the number of prescriptions compounded is much increased, yet the established prices are so low that the net returns are not adequate, and there is general demand that the pharmacist's position under the law be improved.

JULIUS H. HESS, M.D.

An act for Health Insurance is to be presented in the near future to the legislature of Illinois. Many arguments have been offered by the friends of such an act contending in its favor from the standpoint of the social worker. After attending two meetings in which the proposed measure has been the subject of discussion, I have been impressed by the fact that but few members of our profession have sufficiently interested themselves to ascertain the exact relationship which such an act will bear to the future of the practice of medicine in our State, and moreover, in the United States, as the same bill will be under consideration in the legislatures of most of the states of the Union.

We are told that the subject of social or health insurance has come to stay in this country, and that the medical profession can not afford at the present time to oppose the general subject of health insurance. With the first of these propositions I am inclined to agree; but that, at this moment, we can not afford to oppose the passage of such a bill, more especially in the form in which the present one is drafted, I must disagree.

We are also told that in Germany the law has materially benefited the medical profession. The answer to this argument is best made by quoting from the inaugural address of the president of the University of Munich—the second largest government university in Germany—November 28, 1908, after twenty-five years of trial as such a statute in Germany. He states: "Only a few physicians have benefited by such legislation, that is, those who have been appointed by the insurance organizations. These appointed physicians have fallen into dependence upon these insurance organizations and their managers, and this condition of control of the profession has been further strengthened by the centralization of the insurance organizations. The managers of the insurance organizations, have in many instances, assumed the position of employers toward physicians, and the determination of the fee has been left to the organization and had to be accepted by the physician. Under these conditions the income of many physicians has scarcely been higher than that of the better tradesman, entirely out of proportion to the cost of his education, and insufficient for the social position of the physician. By the faulty legislation which expects everything from the physician's sense of duty, without doing anything for the protection of his rights, and by the terrorism of managers of these health insurance organizations, great humiliation of the medical profession has resulted."

"It is irony when the physician, whose independence in every direction is a condition *sine qua non*, becomes a vassal of the manager of the insurance organization, being subject to his temper and humor."

"Whenever the physician is dependent upon the insurance organization and its members, who very easily imagine that they are wronged or that they are not getting everything they deserve, this condition must have a demoralizing effect."

"For the protection of their interests, which have been considerably endangered by health insurance, the physicians of Germany have joined in the so-called Leipzig Union, an organization to which the great majority of the physicians in Germany belong."

He further states that, while in Germany the wages in all the trades and occupations have considerably increased from the year 1815, being double in many

instances, the physician's fees are not much higher, and in many cases they are even lower than the minimal fees of the Prussian tariff of 1815. And the fees of physicians appointed by the sickness insurance funds are, as a rule, one-half of the minimal fees.

Secretary of State, von Bethmann Hollweg in his speech in the Reichstag on February 9, 1909, said: "...the conditions of the medical profession have been gravely affected by our insurance legislation, and by the extension of the field of operation of the insurance companies, these conditions will not be improved."

"The medical profession requires the privilege of activity as free and as extensive as possible. This freedom of movement of the entire medical profession as a whole, and chance of the individual physician for establishment of a secure position of life, becomes considerably narrowed when large groups of the population have been excluded from free competition. It can not be denied that the sickness insurance has contributed to this end by creating and furthering the system of appointment of physicians by sickness insurance funds."

The writer, being interested in this subject, while on a visit to Germany in 1910, collected a considerable number of statistics and monographs bearing upon the subject of health insurance as administered in Germany. The most complete statistics on hand are those of Berlin, Frankfort, and Magdeburg; and in all of these cities the average amount of premiums, as paid per year by the insured, ranges from 32 to 42 marks (or from \$8.00 to \$10.00). In these three large cities the physicians received from 4.63 to 5.07 marks, or from \$1.00 to \$1.25 a year per person insured. This averages from 11 to 16 percent of the total disbursements of the premium as paid in.

In an address before the Chicago Medical Society on January 10, 1917, the Hon. Francis Neilson, M. P. at the present time, and also during the session in which the health bill was introduced in England, speaks as follows: "We want you to be wise in your agitation regarding such legislation as health insurance, and not to make the mistakes we did in Great Britain. We want you to familiarize yourselves with every phase of the subject before securing legislation. After the insurance act went into operation in England, we found there was resentment and dissatisfaction all over the country."

The writer believes that the question of social insurance, or so-called "Health Insurance," has become one of profound interest to the medical profession of this state, and that it will have a great bearing on the future of the whole profession of Illinois, because it involves the question of medical services to all citizens with an earning power of \$100 a month or less, and who may come within its provisions. The workers of this class will represent at least 75 percent of all of the active wage earners of the state, and in all probability will have more or less influence on the practice of every practitioner in Illinois.

When we realize the great havoc caused in the profession of Germany by the insurance companies writing health insurance in a commonwealth in which all forms of professional education are under the direct control of the government, graduation from whose universities and practice under a diploma issued by the government, insures the recipient of a real professional recognition by the people—what might not be the consequences in our own country, where the government has little or no real control over the great insurance corporations, and displays

but little official concern in medical education! One can easily realize the possibilities which could arise to the tremendous disadvantage of the profession by the passing of a health insurance act which has been hastily framed and considered.

I believe that the time is not yet ripe for such extreme legislation and that the profession as a whole is inadequately informed as to the meaning of such legislation, and therefore, I think that if health insurance legislation is to be enacted at all, it should first be given the most careful consideration by all parties who will be directly and vitally affected.

The profession of our state should, therefore, thoroughly organize for a careful study of all of the various phases of this question, not alone as it affects themselves but also the commonwealth as a whole. And until such consideration has been given to the subject, it would be unjust to pass such a law. It should not be done.

CLYDE M. SNOW, PH.G.

It occurs to me that the United States is not in the same need of compelling health insurance as are England and Germany, for we do not have the very poor laborer toiling for the very small compensation. I believe that investigation would reveal that the man earning less than \$1.25 per day does not exist in the United States. The foreign-born, unskilled laborers earning comparatively small wages generally prove to be land holders after a few years' residence. And we generally look upon such property owners as competent to select their own physicians and pharmacists and I believe that it is a matter of record that *they* pay their obligations. A large portion of the taxes now collected go for the care of the poor and sick. If the same effort were bent to obtain economical handling of these funds, as will have to be expended to pass and administer health insurance acts, those who really need such assistance could be amply provided for without added taxation of the more provident.

If health insurance can be compelled, the compulsory saving of a portion of wages can be enforced; with a savings account, the individual would, in my estimation, be endowed with a greater self-respect and be in a position to take care of himself and family without being placed in the light of an object of charity.

With this method the worker would have the protection sought by a health insurance act without the semblance of charity. The man would be a better citizen, because of having savings which would necessarily be invested in bonds for the raising of funds for municipal and federal improvements; he would have an interest in his community that he never had before. Finally, it is my belief that health insurance, as such, will not improve the individual, at whom it is directed, one iota and it will add further burden to the taxpayer.

HUGH CRAIG.

Health insurance or, as it is sometimes called, social insurance, is a subject that is filled with interest to the pharmacist and the medical man; and in view of the fact that, through the agency of the American Association for Labor Legislation, bills to provide state health insurance are to be introduced in many state legislatures this year, the interest has become that of a condition and not of a theory alone. As is customary, pharmacists and physicians, who are vitally

interested in the solution of the problems at which this project is aimed, have left to social workers, more or less of the reformer type, the initiation of an endeavor toward that solution, and even now that the endeavor is under way, have not shown much concern in the matter, albeit the project has the support of some medical organizations or at least of their executive bodies. The big question is: Is governmental paternalism the desirable remedy for the alleged inadequacy of the medical care of the public? I think not.

Ostensibly, the purpose of the projected health insurance plan is to provide better medical service for the general public at a lower cost. In its general aspect, the project savors very largely of socialism, of paternalistic governmental functioning; it would reduce the greater majority of the citizens of the state to a condition of quasi-pauperism in that it would compel them to accept medical aid from the state. It is not justly to be compared to the ordinary variety of insurance against sickness or accident, because it is forced upon the wage-earner, willy-nilly, and as the state and the employer are to pay all, or the larger portion of, the cost, he becomes involuntarily the object of their charity. It is not to be compared justly to compulsory vaccination or quarantine, because it is not a means of safeguarding the general public against contagious disease.

It is only a few days since I succeeded in getting a copy of the Model Health Insurance Bill prepared by the American Association for Labor Legislation. I know that few of you have had an opportunity to become familiar with its provisions, so I shall state some of them. In the first place, the bill provides that every wage-earner whose income is \$100 a month or less must become insured. The cost of this insurance is to be divided among the insured person, his employer, and the state. The state will pay 20 percent. The employer will have to pay on a sliding scale ranging from 80 percent for an employee earning less than \$5.00 a week, to 40 percent for one earning more than \$9.00 a week. The remainder is to be paid by the employee. The insurance may be issued (1) by local funds, that is, coöperative groups of insured persons in any locality; (2) by labor unions or trade organizations; (3) by fraternal societies organized not for profit; and (4) by the employing person or firm. The supervision of the plan is to be in the hands of a state commission, assisted by representative bodies of employees and employers.

Medical attendance under the plan would have to be certified by one physician, and apparently, extended by another. The selection of a physician is partly voluntary with the insured person, but rules for the allotment of patients are provided, and no physician may have more than 500 insured persons in his care. Medical attendance embraces the services of a physician, medical and surgical supplies, nursing, and hospital service. There is also a provision for a maternity benefit and a \$50 funeral fee, and the ailing insured person would receive an additional sick benefit of two-thirds of his wages for a period of not more than twenty-six consecutive weeks. It must be understood that the insuring of a wage-earner provides benefits for all those dependent upon him. This fact is particularly important in connection with the provision for medical and surgical supplies, as the bill specifically limits the cost of such supplies—they include crutches, trusses, sickroom supplies, and so on—to \$50 a year for each insured person and those dependent upon him; therefore, the druggist could supply only

\$50 worth of goods in one year to any wage-earner's family, even though there be ten members thereof. The family or other dependents of the insured person would also receive a cash benefit of one-third of his wages while he is in a hospital.

Some may think it strange—but it is the usual thing—that no mention of the pharmacist or of pharmacy is made in the bill. It is true that there is little mention of the physician other than as an employee of the insuring organization; but it is provided that the state medical society will have advisory duties in connection with questions of treatment, and I have seen in some medical publications that the local medical organizations will be permitted to advise in the selection of physicians.

Nonpartisan reports do not bear out the claims made in regard to the success of health insurance in Great Britain or even under the paternalistic government of Germany. It is difficult to foresee how any such plan will conduce to medical progress, because its obvious influence would be to foster routine treatment. At one time there was some complaint in Great Britain, that seems to set at naught the statement that the insurance plan will eliminate the dispensing doctor. Over there it was found that doctors of that class sometimes advised a patient that they could not cure him with the cheap medicines permitted under the insurance schedule, but that it would be necessary for him to take some of their "specially prepared, high-grade" concoctions. So we should not be too hopeful; for the astute manufacturer of nostrums can also make capital out of the cheapness of the insurance medicine for the exploitation of his high-priced product.

I am of the opinion that, socially and medically, this question deserves a deal of study before such a revolutionary step is taken. I hope that the discussion here may be enlightening, and that it may lead to further fair consideration of the subject, and to some light as to the cost.

SOLUTION OF MAGNESIUM HYPOCHLORITE.

The following solution is isotonic with blood-serum:

Chlorinated lime.....	28 Gm.
Magnesium sulphate.....	18.20 Gm.
Water.....	1,000 Gm.

The two salts are triturated in a mortar, and the water added by degrees; the solution is then filtered through cotton wool. The solution is very stable, much more so than Labarraque's or Dakin's solution. In contact with wounds, it liberates its chlorine gradually, and it retains its antiseptic properties for a long time. It is no way harmful to the cells, for it is free from irritating substances like boric acid and the borates. For use it should preferably be warmed to 95° F.—Duret (*Journ. Med. et de Chir. Prat.*, August 10, 1916; *Practitioner*, October 1916, 392).—Vide *The Pharmaceutical Journal and Pharmacist*, December 2, 1916, page 526.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

PHYTOCHEMICAL NOTES.*

From the Laboratory of Edward Kreiners.

83. The Cones of *Pinus sabiniana*.

BY L. J. OSTLUND.

Although the oleoresin and its components of the Digger's pine have been examined repeatedly, the seeds from which the tree derives its popular name, do not appear to have been investigated even in a preliminary manner.

A large quantity of cones having been obtained through the courtesy of the Forest Products Laboratory, the opportunity to make a beginning in this direction seemed too good to be neglected.

The Seeds.—Inasmuch as the seeds have been used by the Digger Indians as food, it seemed desirable to ascertain the amount of food material obtained from one cone. The average number of seeds from a medium-sized cone was found to be 181, eleven cones having yielded 1810 seeds. The total weight of these seeds was 1430 Gm., hence each cone produced, on the average, 143 Gm. of seeds. In other words, each seed weighed somewhat less than one gram. The average weight of a single cone was 610 Gm.

100 Gm. of seeds, having been weighed, were cracked carefully and the kernels collected and likewise weighed after the seed coats had been removed. These kernels weighed 23.2 Gm., hence constitute 23 percent of the seeds. They have a rather pleasant, bland, somewhat oily taste.

When subjected to continuous extraction with heptane, 23.2 Gm. of the kernels yielded 10.8 Gm. of oil, corresponding to 46.5 percent of oil in the kernels, or 10.8 percent of oil in the seeds.

The heptane used was obtained by fractionation of the oil from Digger's pine.

1000 Gm. of seeds finely ground and subjected to continuous extraction with ether yielded 118 Gm. of oil or 11.8 percent. This oil is heavy and thick and has a dark yellow color.

The kernels of 500 Gm. of the seeds deprived of their seed coats subjected to expression produced 30.5 Gm. of a viscid, colorless oil, having the specific gravity of 0.958. Yield, 6.1 percent with reference to seeds. The expression, however, was imperfect.

Fatty Oil Obtained from the Seeds.—So far as the material permitted, some of the more common physical and chemical constants of the fatty oils, obtained as described above, were determined. The specific gravity was determined by means of a Mohr-Westphal balance. The saponification, iodine, and acid values were determined in accordance with the directions given under "Tests, etc.," of the U. S. Pharmacopoeia, 8th decennial revision, pp. 535 and 536. The results are herewith tabulated:

* Read in abstract before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

	Sp. gr. at 20°.	Sapon. val.	Iod. val.	Acid val.
Oil obtained by extraction of kernels*.....	0.952	....	....	..
Oil obtained by extraction of seeds.....	0.921	136.9	94.6	42
		138	....	44
Oil obtained by expression of kernels.....	0.958	146	108	56
		147.2	....	54

The amount of oil obtained by heptane extraction of the kernels was too small to admit of extended analytical study. The difference between both physical and chemical constants of the heptane extract of the comminuted seeds and the expressed kernels can readily be explained by the difference in the two products consequent by the method employed. The heptane extract was not only that of the kernels but that of the seed coats as well. A comparison of the yield of the heptane extract of the seeds with that of the expressed oil from the kernels reveals clearly that the expression was far from quantitative.

The Oleoresin of the Cones.—When the oleoresin of Digger's pine is referred to, that of the wood is generally implied. This has received attention on the part of several investigators. Another oleoresin, quite different in appearance, is that which oozes from the tips of the scales of the cones. It is sulphur-yellow, clear and transparent, when fresh, but upon prolonged exposure it loses its transparency and softness and becomes more or less brittle.

From ten cones 77.6 Gm. of oleoresin were collected, averaging 7.6 Gm. per cone. Inasmuch as the average weight of a cone is 610 Gm., it becomes apparent that slightly more than 1 percent of oleoresin was thus obtained. Presumably a larger amount could be obtained by extraction with the proper solvent.

The saponification value was determined according to the U. S. P. (pp. 535 and 536), the acid value by the indirect method, according to the same standard (p. 131).

Sap. No. 152.9 and 154.5. Acid No. 147.0 and 147.0.

NOTE.—The distillation of a number of fresh cones several years ago yielded but a few Cc. of a volatile oil which thickened before it could be investigated.

A NEW DIGESTANT.*

BY W. A. KONANTZ.

A great deal of criticism has been brought against many of the National Formulary and commercial galenicals intended as digestants, on the ground that they are unscientific, and can possibly have no value apart from that which may be ascribed to purely psychological influences. It is, indeed, remarkable how little consideration has been given, in formulating these preparations, to the fundamental physiologic facts relating to digestion and digestive ferments, or to the properties and incompatibilities of the substances combined. Of the nineteen digestants in the National Formulary, twelve are absolutely ineligible in the light of these facts, three are of doubtful utility, and the remaining four, while free from other serious objection, are so limited in their scope and so feeble in their power that, from the standpoint of practical therapeutics, they are useful

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

only as vehicles. Of the commercial preparations, as a whole, it may be said that they are inferior to the official, even as vehicles. It would seem, therefore, that there is need of a new digestant which will be at least compatible within itself and of such strength as to have real therapeutic value.

In order to understand what should, as well as what should not, enter into this class of preparations, and also what they can be reasonably expected to accomplish, one must at the outset take into consideration four all-important things: First, the nature of the materials which are taken into the body as foodstuffs; second, the processes by which the body normally takes care of these materials; third, the pathological conditions which may cause these processes to vary or to cease completely; and fourth, the nature of the substances which can be used to overcome these conditions. In a paper of this length it is obviously impossible to go deeply into the chemistry of foods, or to say much concerning the physiology and pathology of the digestive system, important as a knowledge of these things is for our purpose, and therefore only the more important facts, and such as are necessary to an understanding of what is to be said later, can be touched upon in the paragraphs which follow. We may begin with the different kinds of foodstuffs.

As is well known, the essential constituents of all organic foodstuffs belong to three classes of chemical compounds; namely, the proteins, the carbohydrates, and the fats. Of these the proteins are by far the most important, since they are the only organic foodstuffs which are indispensable to the body, and which can not be replaced by any other nutrient material. They are found in all animal and vegetable tissue, and they are therefore never absent from any animal or vegetable food. The various kinds of proteins which occur in the different animal and vegetable tissues, such as albumen, myosin, casein, gluten, legumen, etc., differ greatly in many of their physical and chemical properties, but they all are alike in containing the same five elements, carbon, hydrogen, oxygen, nitrogen and sulphur; in never occurring in true solution, but in one of two forms, either colloidal or coagulated; and also in a certain agreement in their products of decomposition. It would seem that the different proteins are composed of the same proximate principles combined in varying proportions. The change from the colloidal to the coagulated form may be brought about by heat, varying with the different proteids from 55° to 57° C., and in some cases by alcohol or mineral acids. On decomposition by the putrefactive organisms, the proteins yield a large number of substances, among which are hydrogen sulphide, ammonia, ptomaines, and various amino acids; on hydrolysis with chemical reagents or the digestive ferments, they give first various highly complex products, called albumoses, proteoses, and peptones, and finally a great number of simpler compounds such as the amino acids. These decompositions are of the greatest importance in digestion, since by means of them alone can the huge protein molecule be rendered soluble, diffusible, and assimilable by the body. It will be seen that the digestion of the proteins is of prime importance to the body, of more importance indeed than that of the carbohydrates and fats, which we must consider next.

The carbohydrates and the fats offer a contrast to the proteins in being free from nitrogen and sulphur, both containing the same three elements, carbon, hydrogen, and oxygen, although their quantitative composition is quite differ-

ent, the fats being much poorer in oxygen, and richer in carbon and hydrogen. They are not so essential to life as are the proteins, and the problem of their digestion is correspondingly less important. They do not seem to be capable of replacing the exhausted constituents of the body, and their main service is undoubtedly in furnishing the body with heat and energy.

The most important carbohydrates, so far as their use in the body is concerned, are the starches, the gums, and the sugars, which differ greatly in their physical properties but have a close chemical relation as is indicated by the nature of their decomposition products. On hydrolysis, all the higher carbohydrates are ultimately converted into the lower ones, the simple sugars, which alone are assimilable by the body. On putrefaction or fermentation, they undergo various decompositions, depending on the nature of the organism present—thus we have the lactic acid fermentation, butyric acid fermentation, alcoholic fermentation, etc. Decompositions of the first kind take place during the normal processes of digestion, while those of the second kind frequently occur during abnormal conditions, and give rise to some common pathological disturbances.

Compared with the proteins and carbohydrates, the fats are simple bodies; they are mostly mixtures of the esters of certain higher fatty acids with glycerin, and they readily decompose into these constituent parts when hydrolyzed. When the hydrolysis is effected by alkalies, the fatty acids which are freed combine with the bases to form soaps, and these soaps have the power to emulsify large quantities of the same or other fat. This fact is of great importance in digestion, since it appears that the fats can be absorbed into the body only after conversion into such soaps or emulsified fats.

From what has already been said, it can be readily seen that nearly all the organic foodstuffs are insoluble in water. Fats, as we all know, are not miscible with water, the proteins only swell without actually dissolving in it, and, of the carbohydrates, the sugars alone are soluble. On being introduced into the alimentary canal, the foodstuffs, although surrounded by the body, are still outside of what is called the body proper. To get from the digestive tract into the body proper, the foodstuffs must pass through the mucous membrane lining of these organs and also the walls of blood or lymph vessels. Only liquids can make this passage, so it is necessary to reduce to the liquid state all foodstuffs not already in that condition. This reduction to the liquid state constitutes the digestive processes, and is effected in the body by five secretions; namely, the salivary juice, the gastric juice, the pancreatic juice, the intestinal juice, and the bile. In this process water is the solvent, and certain chemical agents convert the insoluble nutrients into substances that are soluble in water.

The first of these secretions to act upon the foodstuffs is the salivary juice, a transparent and somewhat slimy liquid of slightly alkaline reaction. It consists chiefly of water (about 99 percent), holding in solution certain salts, mucin, and an enzyme called ptyalin, which has the power to convert starch into dextrin and sugar. Approximately 1500 Cc. of saliva are normally secreted in the course of 24 hours, and this secretion might therefore be expected to play an important part in the chemical processes of digestion, but it has not yet been found that it does so. The saliva has no effect on most articles of diet; starch alone is converted into dextrin and sugar, and even this action is very inconsiderable, almost noth-

ing when compared with the similar action of the pancreatic juice or of diastase. This is because the period during which the ptyalin can act is of very short duration. Its action on starch takes place only in the faintly alkaline reaction which belongs to the normal saliva, and its action is immediately enfeebled or entirely neutralized when it reaches the acid gastric juice. Thus only a small portion of the starch consumed is split up by the salivary juice. The chief value of the salivary juice is undoubtedly in the amount of water which it furnishes, and which is utilized, first, to lubricate the foods and prevent their irritation of the mucous membranes, and secondly, as the digestive solvent for the foods as they become soluble.

The next secretion to act upon the foodstuffs is the gastric juice, and with it begins the definite work of dissolving those foods which are insoluble in water. It is distinguished from all the other digestive fluids by its acid reaction, which is due to the presence of 0.2–0.4 percent of hydrochloric acid. In addition to this it contains certain salts and three enzymes, pepsin, rennin, and a lipase. The chief substances digested by the gastric juice are the proteins, which are converted by the pepsin into proteoses and peptones—substances which, unlike the proteins, are neither colloidal nor coagulable, are more easily diffusible through animal membranes, and therefore better suited for absorption into the blood. This action of pepsin can occur only in an acid medium, a condition which is supplied by the hydrochloric acid. The characteristic action of rennin is the coagulation of colloidal protein, like the albumen of milk, which is then acted upon by the pepsin and hydrochloric acid in the same manner as the other proteins. The protein membranes which surround the fat cells of certain foods are also dissolved by the pepsin, setting free the fat, which is attacked by the lipase, and split into its constituent fatty acids and glycerin. How large a portion of the fat, however, is thus broken up in the stomach cannot be stated, but it is probably a very small amount, for the decomposition of fats, at least in experiments on artificial digestion, goes on very slowly. Nevertheless, as will be shown later, it is quite sufficient if only a minute part of the fats is thus split up.

We have just said that hydrochloric acid is necessary for the action of pepsin, but this is not its only significance. Recent researches indicate that one of its important functions is the killing of microorganisms which reach the stomach with the food, and which would otherwise set up processes of decomposition in the alimentary canal, and thus destroy a part of the food before its absorption, while the products of decomposition would produce disagreeable symptoms and even disease. The mineral acids have antiseptic power even in such dilution as that of the hydrochloric acid of the gastric juice. Boer found that hydrochloric acid in the proportion of 0.15 percent effectually restrained the growth of all bacteria with which he experimented, and that most forms were impeded by as small amounts as one part in two thousand of this acid. Besides these functions, it has been fairly well established that cane sugar and maltose (double sugars) are converted by the hydrochloric acid into glucose and levulose (simple sugars); that the muscular activity of the stomach, so important in mechanically disintegrating the foodstuffs and mixing them with the digestive juice, is largely governed by the relative acidity on the two sides of the pylorus; and that the stimulation of pancreatic secretion, with its important digestive ferments, is a hormone formed

by the action of the hydrochloric acid on duodenal epithelium. In the opinion of the writer, the treatment which the foodstuffs receive in the gastric juice is the most important to which they are subjected, for if the stomach fails to produce in its contents the general characteristics of chyme there will be driven out into the duodenum a mass of semi-digested or fermenting material unfit for intestinal digestion, thereby disordering the functions of these parts and all the others which follow.

The pancreatic juice, by which the foods are next acted upon, is a sort of "finisher." It acts with vigor upon all the three main groups of foodstuffs, completing the reactions begun by the salivary and gastric juices. It converts the **starch into maltose**, completing the work begun by the saliva. This action is due to the presence of an enzyme, amyllopsin, which is similar to ptyalin but is more vigorous. It changes proteins into proteoses and peptones, completing the work begun by the gastric juice. This is accomplished by another enzyme, trypsin, which is similar to, but more active, than pepsin. It decomposes the fats into their constituent parts, and in this work the active agent is the enzyme steapsin. There is also present an enzyme similar to the rennin of the gastric juice. Perhaps the most notable feature of the pancreatic juice is its alkaline reaction, which is due to sodium carbonate. The sodium carbonate has three functions: first, it furnishes the alkaline medium which is necessary for the action of the pancreatic enzymes just mentioned; second, it neutralizes the hydrochloric acid of the gastric juice; and third, it neutralizes the fatty acids set free from the fats by the lipase and the steapsin, and thereby forms soaps, which serve to emulsify the rest of the fats by surrounding their globules with such a coating that they are unable to unite into large masses, and become thereby capable of being absorbed through the walls of the intestines. It was said in a preceding paragraph that only a small quantity of the fats is probably split up into free fatty acids and glycerin by the lipase or the steapsin, and that this small quantity is quite sufficient. This is true because the whole amount of fat is thereby rendered capable of being converted into a fine emulsion, in which form it is assimilable. It must not be forgotten that some free fatty acid, however small in amount, is necessary for this saponification with sodium carbonate, since neutral fats can be saponified only by free alkalies. The carbonates of the alkalies have no action on the neutral fats but only on the free fatty acids, and the sodium carbonate is therefore unable to decompose the fat-molecule, or to form a soap, until some fatty acid has been set free by the ferments, nor will it emulsify the fat if no fatty acid is present, but a fine emulsion is produced after the decomposition. The presence of free fatty acid and sodium carbonate is therefore the most essential condition in the digestion of the fats.

The remaining two digestive fluids, the intestinal juice and the bile, seem to act chiefly as aids to the pancreatic juice; neither contains any enzymes of importance in digestion. The chief constituent of the intestinal juice is sodium carbonate, and its function is probably to aid in neutralizing the hydrochloric acid and in emulsifying the fats. The bile also plays an important rôle in the digestion and absorption of fats by acting as a solvent of the fatty acids and soaps, and therefore as a carrier of them into the mucous membranes.

Having now considered the normal processes of digestion, it is equally important for our purpose to know something of the pathological conditions which

may cause these processes to vary or to cease, for digestants are used, of course, not when the functions are normal, but when they are abnormal. With regard to cause, we may say that digestive disturbances are of two kinds: those which have their causes directly in the alimentary tract, and those which have their causes in other parts of the body, the digestive system simply being involved in a more or less general decline of bodily functions. Disturbances of the first kind are due chiefly to a neglect of hygienic measures, as the eating of improper foods or improperly prepared foods, irregularity in eating, overeating, incomplete mastication, and so on; but they may be due to acute or chronic gastritis, or even to organic changes in the abdominal viscera, as in carcinoma and ulcer. The second kind of disturbances occur during short or prolonged fevers, during infectious diseases, in chronic maladies, as anemia, chlorosis, diabetes, tuberculosis, and in fact whenever the system in general is involved; they are due to the impoverishment of the blood, and in consequence the secretions of the glands are diminished, and the motility of the muscles concerned with peristalsis enfeebled. In either case we have much the same conditions to deal with: deficient secretion of digestive enzymes; hypoacidity, or deficient acidity of the gastric juice; hyperacidity, or excessive acidity of the gastric juice (which forms one variety of acid stomach); atony of the muscles of peristalsis; ferment action, or rather putrefaction, of the foods, with formation of lactic acid, butyric acid, and other effete products; flatulence, caused by this fermentation and the liberation of gas; hypersecretion of mucus; and irritation of the walls of the alimentary canal, due to the presence of undigested or indigestible food.

It should be noted that digestive disturbances are nearly always symptoms, not diseases; their treatment must therefore be chiefly symptomatic. However, to secure any permanent relief the underlying causes must of course be removed. If they are due to neglect of hygienic measures, then a strict diet must be instituted and rigidly enforced; if they are due to diseases then these diseases must be given treatment. In any case, the writer believes that the proper use of a digestant will always be as an adjunct—but a necessary adjunct—to some other treatment calculated to remove the causes of the digestive failure, and that the sole objects of a digestant are to replace temporarily, digestive ferments that are lacking, to render the alimentary tract aseptic, to counteract disagreeable symptoms, and so far as possible to restore normal conditions in the digestive system. If a digestant does these things, it has done all that can reasonably be expected of it.

The substances which are most widely used for the accomplishment of these objects are the following, which have been listed according to their chief action:

Digestive Ferments: Pepsin, pancreatin, diastase.

Acids: Hydrochloric, phosphoric, lactic.

Antacids: Sodium bicarbonate, magnesia, lime-water.

Bitters: Strychnine, quinine, gentian, quassia.

Carminatives: Volatile oils, spices, asafœtida.

Antiseptics, (a) gastric: Creosote, resorcinol, sodium phenolsulphonate;
(b) intestinal: betanaphthol, salol, aspirin.

Protectives: Insoluble bismuth salts, wood charcoal.

Demulcents: Mucilages (acacia, elm, linseed, althæa, etc.), glycerin.

Of these substances, the most useful, and the one most likely to do good, is

undoubtedly hydrochloric acid. The numerous functions which it performs in the normal processes of digestion have already been mentioned. In hypoacidity it is invaluable for supplying the acid which is so necessary for the activation of the peptic glands, for the stimulation of the gastro-intestinal muscles, and for the prevention of fermentation. In hyperacidity the excessive secretion may be prevented by its administration, on the rule that acids check acid secretions; or, if the excessive acidity is due to the formation of butyric, lactic and other organic acids from the foods by fermentation, it will by reason of its powerful antiseptic influence effectually overcome this condition. As an antiseptic, hydrochloric acid is decidedly superior to the phenolic compounds which are so often given for this purpose, and which tend to derange the system by inhibiting its ferments. It should be noted here that the method of treating hyperacidity of the second type, based upon the administration of hydrochloric acid, creosote, or other antiseptics, is not for the purpose of removing the acids, but to stop fermentation. The objection to the method of treatment with alkalis, like sodium bicarbonate and magnesia, is that, while they neutralize the acids, they do not prevent the fermentation, and if given during the process of digestion they interfere with it, by neutralizing also the normal acidity of the stomach. Medical writers, on the whole, are agreed that most cases of digestive failure, from whatever causes, are benefited by the administration of hydrochloric acid, perhaps the only exception being where there is much gastric inflammation, and even here it is extremely doubtful whether in the quantity and dilution in which it is ordinarily given hydrochloric acid is at all irritant.

Certain other acids, such as phosphoric and lactic, are occasionally substituted for hydrochloric acid, but without sufficient reason. They certainly cannot perform the functions of the hydrochloric acid in digestion. Phosphoric acid is a normal constituent of the gastric juice in the form of acid phosphates; lactic acid is found only when there is putrefaction of the carbohydrates, and is extremely irritant to mucous membranes. It is therefore the more objectionable of the two.

In those cases of digestive failure which are due to a lack of digestive ferments, practically the only available remedies are pepsin, pancreatin, and diastase. These are not the pure isolated enzymes, but more or less impure mixtures of several enzymes with other albuminous bodies. Pepsin is usually made by the autodigestion of the mucous membrane of the hog's stomach, and the separation of the pepsin by the process of salting out. The United States Pharmacopoeia requires that standard pepsin shall be able to digest not less than three thousand times its own weight of coagulated egg albumin in two and one-half hours at a temperature of 52°C ., but much stronger pepsins are prepared commercially. Pepsin regularly contains some rennin, and its solution will therefore coagulate milk. It has no action on the fats or carbohydrates. Pancreatin is made from the pancreas of the hog in much the same way that pepsin is extracted from the stomach; it is essentially a mixture of the specific ferments found in the pancreatic juice. The United States Pharmacopoeia requires that standard pancreatin shall be able to digest at least twenty-five times its own weight of boiled starch in five minutes at a temperature of 40.5°C . Pancreatin should also act on the proteins and fats. Diastase is obtained from infusions of malt (barley, oats, wheat, potato, etc.) by precipitation with alcohol; one part should convert two

thousand parts of starch into dextrin and maltose. It also contains a second ferment, known as peptase, which is capable of changing proteins into peptones.

It will be seen that these preparations are highly powerful substances, and it might be expected that they would be of great value in replacing digestive ferments lacking in the human body, but their utility is greatly lessened by the fact that they are delicate bodies whose activity is destroyed by the presence of many other substances. Thus, the digestive power of pepsin is destroyed or impaired by strong acids (over 0.5 percent), by alkalis, by alcohol (over 10 percent), by the soluble salts of many heavy metals, and by gallic or tannic acid, while pancreatin is rendered inert by more than traces of acids or alkalis. In solution these two are mutually incompatible, the pepsin destroying the pancreatin if the solution be acid and the pancreatin destroying the pepsin if the solution be neutral or alkaline. Diastase, on the other hand, will act in either a neutral or a feebly acid solution, although the latter is preferable. At one time it was thought that lactic acid increased the activity of diastase, but it has recently been shown that it has a retarding effect; however, the acid phosphates seem to exert a beneficial influence.

The problem in the case of digestive ferments is chiefly whether to administer pepsin (and hydrochloric acid) or pancreatin (and sodium bicarbonate). Both kinds of solution are largely used, as well as some which are supposed to contain both ferments. These latter are impossible combinations for the reasons already given. The examination of several such preparations by the chemists of the *Council of Chemistry and Pharmacy* of the *American Medical Association* has shown them to be inert, or to have only a weak action of the ferment that happens to be in excess. With regard to the use of pancreatin, it must be borne in mind that it is not active in the presence of free acid, and in the normal gastric juice is not only incapable of affecting digestion but will itself be digested. If used, it must therefore be given enterically, which is inconvenient, or combined with sodium bicarbonate, which is objectionable because the normal acidity of the stomach will be neutralized and digestion retarded instead of promoted. Moreover, the value of pancreatin as a digestant of proteins and fats is practically nil, while its amylolytic power, only 1 to 25, is exceedingly low. It is therefore greatly inferior to pepsin and diastase, which have also the advantage of acting in feebly acid solutions. The most important use of pancreatin is perhaps in making the so-called "predigested" or "peptonized" foods. With milk it is superior to pepsin for this purpose, since the rennin in the latter causes coagulation. As an internal digestant, however, pancreatin has little value, and a combination of pepsin and diastase is much more likely to do good.

Some medical writers contend that pepsin, pancreatin, and diastase are superfluous remedies, because, as they say, the digestive glands rarely fail to secrete their specific ferments. An analogous argument would be that serums are superfluous remedies because the body is capable of forming its own antitoxins. In both cases, the object is to relieve the body, already weakened, from the necessity of manufacturing these agents, to introduce them into the system without delay, and to fortify those that may naturally be present. The statement that the continued use of artificial digestants establishes a habit and a consequent weakening of the natural power to secrete digestive ferments is without foundation; on the other hand, there is evidence that they act as stimulants to the secretory

glands and promote their functional activity. Pepsin, pancreatin and diastase do good by increasing the number of digestive ferments, thereby increasing the rate and completeness of digestion. This is in accordance with the law of proportionality, which states that when the amount of substance to be acted upon is large in proportion to the quantity of enzyme, then the amount of the reaction is proportionate to the quantity of enzyme present. For example, if we take two solutions of 300 Cc. each, containing 3 percent of boiled-starch solution, and add to one 0.5 Cc. of malt extract and to the other 2 Cc. of malt extract, the greater amount of reaction will take place in the solution to which the larger quantity of malt extract was added. In like manner, the introduction of additional enzymes into the digestive system will increase the rate and completeness of digestion and relieve the system of its load. The artificial ferments are also good demulcents, capable of exerting a soothing influence upon irritated mucous membranes.

For the purpose of overcoming gastro-intestinal irritation the mucilages are the most effective; they are unsuited, however, to incorporation into digestant mixtures. They are usually given in acute cases only, and then in large doses. Certain insoluble substances are also frequently used, like wood-charcoal and the salts of bismuth. These, being heavy and insoluble, gradually spread themselves over the gastro-intestinal mucous membrane, and mechanically protect it against the action of irritant substances in much the same way that paint protects a house against the effects of the weather. The objection to these substances is that they interfere to some extent with digestion, and if used over a considerable period of time, are likely to form concretions or balls which plug the ileo-caecal valve, and otherwise give trouble. For continued use, in combination with other substances, glycerin and syrup are perhaps the most satisfactory.

Those substances which are commonly called "bitters" and which are used to stimulate the appetite, would seem to be contraindicated in digestants because of the possibility that they may cause active gastro-intestinal irritation, or aggravate such a condition if already present. In those cases which are characterized by loss of appetite without special disturbance of the digestive apparatus or in general tonics, they are undoubtedly of value, but when the digestive system is already loaded with more food than it can properly handle, or is in a depressed condition, it is certainly not advisable to increase the load by establishing a false appetite. Perhaps the least irritant of the bitters is strychnine, and it has a decided advantage over the other bitters in its effect upon the muscular movements of the stomach and intestines because it stimulates peristalsis. It is therefore especially valuable in atonic conditions.

Closely allied to the bitters are the so-called aromatics, which depend for their activity upon the presence of a volatile oil. They differ from the bitters in being more powerful but less permanent in their effects, and in exerting their influence in the intestinal canal as well as in the stomach. They are largely used to expel flatus by exciting intestinal peristalsis, for which purpose they are unexcelled. They are also especially useful in disguising the taste of bitter substances, and in covering many other unpleasant flavors. If used in too large doses they are capable of setting up local irritation.

The principal facts relating to digestants have now been given, and upon these

facts the writer has based the formula of a new digestant, which it is thought avoids the incompatibilities to be found in most other preparations of this kind without sacrificing scope or strength. The proposed formula and directions are as follows:

Pepsin.....	40 Gm.
Diastase.....	40 Gm.
Diluted Hydrochloric Acid.....	50 mils
Sodium Phosphate.....	8.25 Gm.
Purified Oleic Acid.....	30 mils
Alcohol.....	50 mils
Strychnine.....	0.175 Gm.
Oil of Bitter Almond.....	3.750 mils
Tincture of Cudbear.....	60 mils
Kaolin.....	15 Gm.
Syrup, sufficient to make.....	1000 mils

Dissolve the sodium phosphate in the diluted hydrochloric acid, and mix the solution with 725 mils of syrup. In this dissolve the pepsin and diastase, triturate with the kaolin, and filter. Then dissolve the strychnine sulphate in about 25 mils of syrup, and the purified oleic acid and oil of bitter almond in the alcohol. Add these solutions to the filtrate from the first solution. Finally, add the tincture of cudbear, filter, and add syrup sufficient to make 1000 mils.

The use of oleic acid and sodium phosphate in digestant mixtures is new and needs explanation. In the paragraphs on the fats it was shown that free fatty acid is essential to the digestion of the fats. If we take a little neutral fat or oil (that is, one which contains no free fatty acid) and shake it with a solution of sodium carbonate no emulsion will result, but if we now add a drop of a fatty acid like oleic acid, and shake again a fine emulsion forms at once. This is due to the formation of a soap through the interaction of the sodium carbonate with the free fatty acid, and this soap acts as the emulsifying agent. A similar process of emulsification occurs naturally in the digestion of the fats, and is likewise dependent on the presence of free fatty acids. The necessary fatty acid may be liberated from the fats by the organisms of putrefaction or by the lipases of the digestive tract, or it may be added as is done in this preparation. As soon as the fats and fatty acids reach the alkaline intestinal juice the latter will be converted into soap, and the former into an emulsion. It seems reasonable to believe that free fatty acids, administered in small quantities, will aid the digestion of the fats, and it is upon this conviction that the writer has incorporated oleic acid in the above formula.

The sodium phosphate has been added chiefly for two reasons: The first is that diastase seems to act best in a medium containing acid phosphates. The second is that sodium phosphate can combine with free fatty acids to form soaps. It therefore acts in this preparation as an auxiliary to the diastase and to some extent as a substitute for the sodium carbonate of the intestinal canal.

The presence of alcohol in this preparation may seem objectionable to some. The alcoholic content is, however, only about 5 percent by volume, and this amount is necessary to hold the oleic acid and oil of bitter almond in solution. The writer does not believe that this amount is really objectionable, since it has been conclusively shown by numerous investigators that alcohol in amounts less

than 10 percent has no deleterious effect on the processes of digestion. On the contrary, small amounts of alcohol seem to stimulate the secretion of the salivary and gastric glands, and perhaps of the digestive ferments in the intestines. However, the small amount of alcohol which will be taken in each dose of this preparation may be regarded as negligible.

The concentration of the hydrochloric acid has been fixed at 0.5 percent. This is perhaps the maximum amount that can be used without injury to the pepsin and diastase, and which still gives a fair dose of the acid. Strychnine sulphate has been added for its well-known tonic effects on muscles and glands. The oil of bitter almond has been chosen as the flavor, for it seems to cover the acid taste best. Kaolin is indicated as the clarifying agent, since digestants made with it seem for some reason to be more permanent than those made with talc.

The dose of this preparation is intended to be for an adult two fluidrachms. In such a dose the patient will receive five grains each of pepsin and diastase, six and a half minims of diluted hydrochloric acid, four minims of oleic acid, one grain of sodium phosphate, and one one-hundredth of a grain of strychnine sulphate. This dosage has been arrived at after considerable study, and it is believed that it will give the maximum of therapeutic value. If thought too large it can be easily reduced by giving one fluidrachm, or even less. Some writers, however, recommend even much larger doses—thirty grains each of pepsin and diastase, and thirty minims of diluted hydrochloric acid—but there are cases on record where such doses, taken over a considerable period of time, have resulted in serious conditions.

In manufacturing this preparation, only ingredients of known strength should be used, and if there is any doubt they should be standardized before they are used. In this way alone can a uniform and efficient preparation be obtained. Pepsin and diastase having a power, respectively, of 1 : 3000 and 1 : 2000 are best. The diluted hydrochloric acid must be exactly 10 percent by weight. Purified oleic acid should be used, not the oleic acid of the Pharmacopoeia, as the latter is not intended for internal use, and has an unpleasant odor and taste. The purified oleic acid should be odorless and tasteless. In order to prevent any possible oxidation of the oleic acid, and also to protect the other ingredients of the mixture, it is recommended that the bottles be sealed—this can be easily done by dipping in melted paraffin. The finished preparation should be a perfectly clear solution of a cherry-red color and a cherry flavor.

GLYCERIN AS AN ANTISEPTIC.

Glycerin has recently been proved to be a most admirable sterilizing agent, particularly suited for rendering surgical instruments absolutely aseptic. Tests have been made with the bacilli of tuberculosis. When heated in glycerin at a temperature of 120° C., these germs are invariably killed at the end of one minute. The germs that are killed in this way are those of diphtheria, anthrax, and chicken cholera, as well as *Bacillus coli*, *B. paratyphosus*, *B. pyocyaneus*, *B. subtilis*, *Staphylococcus albus*, and *Streptococcus brevis*. Surgical instruments are uninjured by the treatment, while rubber tubes remain not only uninjured, but are even restored to elasticity when they have become somewhat brittle.—*Brit. Journ. Dent. Surg.*, November 15, 1916, 686; through *Pharmaceutical Journal*.

CONTRIBUTED AND SELECTED

THE METRIC SYSTEM IN EVERY-DAY LIFE.*

BY H. V. ARNY, PH.D.

There seems but little that I can add to the admirable addresses delivered by the distinguished men who have just presented their views. In fact, all I can do is to present a simple story of my own experiences with that beautiful, logical and simple system of weights and measures now used by 437,000,000 of the people of this globe.

In school, as a twelve-year-old youngster, along with other monstrosities, such as cube root, proportions involving the wildly exciting facts that if 10 men in 7 days could excavate a ditch 1,000 feet long; then 3 men in 12 days could excavate X feet of trenches, I learned that there was a foreign thing called the metric system; that it dealt with "decis" and "centis" and "kilos" and "millis" and "dekas;" that the thing they called the kilogramme represented 2.2046 pounds; that the kilometer was 0.6213 mile. These data passed through the mind of the lad and along with cube root were shortly consigned by him to the limbo of uninteresting and unnecessary things.

Later, as a pharmaceutical apprentice, I learned that this self-same metric system was used by the French physicians of the neighborhood in writing their prescriptions and there then came the first intimation that metric weights were of some practical use. Later, in college, all pharmaceutical preparations were prepared by metric units and a month of use of such weights and measures brought a realization that their decimal sub-divisions make them as superior to the ordinary units of weights and measures as dollars and cents are easier to calculate than are pounds, shillings and pence.

Later, four years' residence in Germany, completed my metric conversion. In truth it might be stated that the first week did the work, since any one accustomed to our decimal system of currency finds that *thinking* in the metric system is merely a matter of *using* the units. In using the meter, one learns that it approximates the yard; in using the kilogramme, the novice instinctively thinks of two pounds; in discussing distance in kilometers, one quickly comes to the realization that the unit measures about $\frac{5}{8}$ of a mile. And after a few weeks of such mental translating, one drops all thought of old units and thinks of quantities exclusively in kilos and meters.

Despite assertions to the contrary, I found in Germany barely twenty-five years after the official adoption by that country of the metric system that all purchases I made were on the basis of the metric system. It is true that in the market places the peasants talk of "pfunds" (pounds) but it is equally true that their "pfund" is the official half-kilo weight. Nor do we have to cross the ocean to find such anachronisms. In certain sections of this land, we hear the silver quarter called the shilling; in other parts of the land it is called "two-bits," while it is an undeniable fact that in one city the five cent piece is still called to a cer-

* Presented at Metric Conference held in New York City December 27, 1916.

tain extent "the picayune," after a Spanish coin of $6\frac{1}{4}$ cents value, that was used in that section a century ago. Nor do I believe that these colloquialisms prove the failure of our decimal system of currency.

The only justifications for the adoption of the metric units as the official standard of this country are (a) The development of our foreign trade demands the change. (b) The saving of time brought about by the use of the metric system would repay the annoyance incidental upon the change.

The first proviso has been emphatically answered in the affirmative by the speakers who have preceded me; but I can add some testimony as to the time-saving properties of the system. As to this there has been a number of extravagant statements made by metric enthusiasts, but figures founded on experimental work have been rare. Accordingly, a comparative test of the same problems expressed in U. S. and metric units was made on third-year University students by having them solve the following commercial problems:

PROBLEMS BASED ON METRIC UNITS.

- 1—Cost of 22 tubes of tooth paste at \$1.45 a "dizaine" (package of 10).
- 2—Cost of 2.26 kilos of quinine sulphate at 4.7 cents a gramme.
- 3—Cost of 27 kilos of coal at \$7.70 a metric ton (1000 kilos).
- 4—Cost of 1.7 meters of cloth at 26 cents a meter.
- 5—Cost of 7.27 liters of glycerin (Sp. Gr. 1.25) at 44 cents a kilo.
- 6—Cost of 5 liters of sulphuric acid (Sp. Gr. 1.84) at 22 cents a kilo.
- 7—A gold dollar contains 1.67 Gm. gold. How many cubic meters of gold (Sp. Gr. 19) would represent eight billion dollars?

PROBLEMS BASED ON ORDINARY (U. S.) UNITS.

- 1—Cost of 22 tubes of tooth paste at \$1.75 a dozen.
- 2—Cost of 5 lbs. (Avoirdupois) of quinine at \$1.45 an avoirdupois ounce.
- 3—Cost of 59 lbs. of coal at \$7.00 a ton.
- 4—Cost of 70 inches of cloth at 24 cents a yard.
- 5—Cost of two gallons of glycerin (Sp. Gr. 1.25) at 20 cents an avoirdupois pound.
- 6—Cost of $1\frac{3}{8}$ gallons sulphuric acid (Sp. Gr. 1.84) at 10 cents an avoirdupois pound.
- 7—A gold dollar weighs 25.8 grains. How many cubic feet of gold (Sp. Gr. 19) would represent eight billion dollars?

In order to eliminate the problem of fatigue half of the students were given the metric; the other half were given the U. S. problems first.

As to the problems themselves, the first four are ordinary transactions of retail trade. All eight of these (U. S. and metric) could be calculated within three minutes and while metric units showed an advantage, it was so slight that the difference could be expressed only in seconds. The next two of each set involve practical problems of the chemical industry where liquids bought by the pound are frequently dispensed in gallons. The last problem is taken from the *Outlook* of November 16, 1916, where the author of an article published in a previous issue apologized for an error made in calculating the cubical capacity of eight billion dollars claimed to represent the gold coin of the world. He acknowledged that while his article stated that eight billion dollars represented a cube of gold 70 feet on each side, the real figures were a cube of 29 feet, or 25,641 cubic feet.

If a distinguished financial publicist could make such an error, I was anxious to see what a class of students could do with it in both systems. The figures below show that the honors were even, although it is only fair to say that in the metric problem two were ruled out because of the improper placing of the decimal point.

The results of the experiments are tabulated below:

RESULTS OF THE TEST ON GROUP I.

Student.	Metric.		U. S. measures.	
	Time	Correct out of 6.	Time.	Correct out of 6.
A.....	15 minutes	5	21 minutes	4
B.....	13 minutes	3	18 minutes	4
C.....	11 minutes	6	18 minutes	5
D.....	15 minutes	1	14 minutes	3
E.....	18 minutes	2	13 minutes	3
F.....	10 minutes	4	23 minutes	5
G.....	8 minutes	8	16 minutes	5
H.....	8 minutes	4	10 minutes	3
I.....	12 minutes	6	22 minutes	4
J.....	7 minutes	3	16 minutes	3
K.....	8 minutes	6	13 minutes	6
L.....	9 minutes	4	18 minutes	3
M.....	24 minutes	4	12 minutes	1
N.....	13 minutes	3	13 minutes	3
	171	68 percent	227	62 percent

RESULTS OF THE TEST ON GROUP II.

Student.	Metric.		U. S. measures.	
	Time.	Correct out of 7.	Time.	Correct out of 7.
A.....	19 minutes	5	42 minutes	6
B.....	30 minutes	4	36 minutes	5
C.....	25 minutes	4	39 minutes	5
D.....	19 minutes	5	26 minutes	4
E.....	23 minutes	5	28 minutes	5
F.....	21 minutes	6	47 minutes	4
G.....	26 minutes	6	33 minutes	2
H.....	24 minutes	2	42 minutes	1
I.....	30 minutes	5	37 minutes	5
J.....	22 minutes	7	27 minutes	6
K.....	20 minutes	4	54 minutes	3
L.....	14 minutes	7	27 minutes	5
M.....	28 minutes	3	30 minutes	5
N.....	15 minutes	6	35 minutes	7
O.....	22 minutes	6	37 minutes	4
P.....	22 minutes	6	39 minutes	6
	360	72 percent	579	65 percent

The figures just given show that one class of third-year University students did the first six problems in U. S. units in 227 minutes, the similar metric problems took only 171 minutes; that while a second group did all seven problems in U. S. units in 579 minutes, they took only 360 minutes to do the same problems in metric units. It will also be noticed that the percentage of correct problems in the metric system is somewhat higher than those done with U. S. units; hence the metric system is not only a tremendous time-saver, but it gives in the hands of the average student more accurate results.

Enough, I think, has been said about the advantages of the metric system.

Our presence here to-day attests to our belief that we should in due course of time become a metric country. And now that we have come together, what are we going to do? It would be the worst of blunders if we, representing such diversified occupations, should not, before we separate, form a permanent organization aimed to disseminate the metric gospel among the commercial bodies until they too agree with us that it is high time for this country of ours to throw off the shackles of an Elizabethan set of standards and add our 110,000,000 people to the 437,000,000 already using the metric system.

COMPARISON OF MEDICINAL MINERAL OILS—RUSSIAN AND AMERICAN.

BY W. F. ODOM AND W. W. DAVIES.

It has been heralded widely in the magazine articles, newspaper advertisements, and other literature of the day that Liquid Paraffin, whether it be a Russian or an American Oil, finds its value as a medicinal agent in its chemical inertness—because it acts merely as a lubricant of the intestinal tract. This point seems to be conceded by all those European scientists who have devoted their time and energy toward research work on this subject, and it is now the only idea fostered by those interested in Liquid Paraffin in this country.

With this in mind, then, we will endeavor to show that the Russian Oil, for clinical, chemical, and physical reasons, is better than the American Oil now found on the market.

CLINICAL OBSERVATIONS.

It is a well-known fact that the European physicians and scientists were the first to prescribe and recommend Liquid Paraffin. After experimenting with the Russian Oil, Sir W. Arbuthnot Lane, the English scientist whose articles are being quoted by many of the promoters of American Oil in their pamphlets and advertising matter, wrote: "The treatment, other than operative, of chronic intestinal stasis of the defective drainage scheme consists in the use of paraffin before each meal. This precedes the food in its passage along the canal and facilitates the effluent."¹ We might quote from a long list of others, among them Phillips, Ross, and Cropper, all Europeans, whose research work into the subject is being applied by many to the American Oil, whereas the data on which they based their articles were obtained from the Russian Oil. The facts of the case then tend to show that the clinical observations on which the use of Liquid Paraffin is based were made with the Russian Oil—and that it is yet to be proven that the same claims are applicable to the American Oil.

CHEMICAL COMPOSITION.

In considering the chemical composition of the two oils, we learn that the Russian Oil is composed almost wholly of naphthene hydrocarbons, which are most probably, saturated cyclic compounds of the hexamethylene type. The American Oil, on the other hand, is mainly methane hydrocarbons with some olefines. They have then totally different structural formulas and, of course, for this reason one will find them acting differently in chemical reactions. The

¹ Page 409, *Hygienic Laboratory Bulletin 98, U. S. Public Health Service.*

hydrocarbons of the hexamethylene type, such as are found in the Russian Oil, are particularly inactive and the saturated methane hydrocarbons of the American Oil are similarly inert, but the olefine series, which the American Oil contains, are reactive even in a weakly acid solution such as might be found in the digestive tract. In fact, Ross claims that the olefines of the American Oil are undesirable in an oil used for internal purposes because they enter into combination with bodies of an acid nature, or with substances in the alimentary tract—whereas, as previously stated, the value of Liquid Paraffin lies in its chemical inertness. We would conclude then that the chemical composition of the Russian Oil makes it the superior of the American Oil, because the other chemical properties of mineral oils, such as sulphur, carbonaceous, or acid impurities, depend only on the method and extent of refining.

PHYSICAL PROPERTIES.

The physical properties of a mineral oil, whether Russian or American, do not seem to bear any relation one to the other.

The "bloom" noticed on many oils is dependent again on the method and extent of refining, and now there are very few medicinal oils—Russian or American—on the market in which the "bloom" has not been eliminated.

The specific gravities may or may not be the same for the two oils. Generally speaking, however, the Russian Oil has the higher specific gravity. This property in no way determines the actual medicinal value of an oil.

The "cold test" is a simple test which a physician or druggist may use to distinguish between the true Russian and American Oils. The Russian Oil will stand a "cold test" of 0° F. or below without congealing. The American Oils, on the other hand, seldom go below 15° F.—many are solid at 20° F. or higher, and invariably are clouded before reaching the congealing point. This test in itself shows that there is a difference in the chemical composition of the two oils and is explained by Gane² when he says that "the higher paraffins in solution in the American Oils, as at present manufactured, are thrown out when the oil is cooled and for this reason American Oil has no cold test." In a series of tests made by one of us on widely advertised American Oil, it was found that, when the oil clouded on cooling, it was necessary to raise the temperature considerably above that at which the cloudiness appeared before the oil was again completely liquefied, thus indicating that the solid paraffins might be considered present in the form of an impurity and that the American Oil had not been refined to the fullest extent. When, in the course of the experiments, the higher paraffins which caused the cloudy appearance were removed by carefully cooling and filtering it was found that the viscosity of the remaining oil was considerably lower, this again indicating that if the oil had been refined to the same point as Russian Oil (medicinal) the difference between them would have been even more marked than is noted in the table which follows.

The value of an oil as a lubricant largely depends upon its viscosity. The engineer in selecting an oil for his engine picks out one with a high viscosity test. The thoughtful physician of to-day sees that the same thing applies to an oil chosen to lubricate a part of the human machinery, and now it is generally conceded that

² JOUR. A. PH. A., July, 1915, p. 792.

the high viscosity test Liquid Paraffin is the best for internal use. In fact let us quote from the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION where it states: "The importance of the viscosity of liquid paraffin is engaging the attention of medical men. *The London Lancet* has shown that the viscosity is more important than the specific gravity, for, whereas the specific gravity may be the same for different samples, the viscosities vary considerably. The higher the viscosity, the more suitable is the oil for medical use as an internal lubricant." (From page 1513, Dec. 1915.)

With this point uppermost in your mind we will present a table in which we have tabulated carefully results obtained by us in our own work with Russian and American Oils. The viscosity was obtained by the Engler Viscosimeter. We are also including in the table, for comparative purposes, the specific gravities and cold tests.

Two samples of Russian Oil and two samples of American Oil were used in these experiments. The Russian Oils were from two very distinct sources of supply. The American Oil No. 1 and No. 2 were obtained from the same source, No. 1 being extensively advertised to the public, while No. 2 was supplied in bulk only.

	Sp. Gr. at 59° F.	Cold test.	Viscosity at 68° F. (Engler).
American Oil No. 1.....	0.8480	Clouds at 40° F., Congeals at 30° F.....	5.4
American Oil No. 2.....	0.8520	Clouds at 18° F., Congeals at 14° to 16° F.....	4.71
Russian Oil No. 1.....	0.8600	Congeals at 0° to -2° F.....	4.26
Russian Oil No. 2.....	0.875	Congeals at -4° F.....	10.26

We may first glean from the above table that although the specific gravities of American Oil No. 1 and No. 2 are not widely different, we can obtain positive proof of their structural difference by the cold test. The viscosity of the American Oil supplied the public seems slightly higher than American Oil No. 2. In comparing the Russian Oils, we note that these samples did not cloud before congealing, also that of the two Russian Oils, No. 2 is of higher specific gravity and viscosity. Again, it is interesting to see that American Oil No. 1, although having a lower specific gravity than Russian Oil No. 1, has a somewhat higher viscosity—this bearing out the statement already quoted from the *Lancet*.

In concluding, we will summarize by stating that a Liquid Paraffin which has undergone extensive clinical investigation, is free from olefins or other active substances, and which is of a high viscosity, should serve as the best medicinal lubricant for intestinal stasis.

LABORATORY OF

DAVIES, ROSE & Co., LTD., BOSTON, MASS.

THE OPPORTUNITY FOR DEVELOPING HISTORICAL PHARMACY COLLECTIONS AT THE NATIONAL MUSEUM.*

BY FREDERICK L. LEWTON.¹

I have been asked to speak to you on the opportunity for developing the historical pharmacy collections at the National Museum. It might be well, even

* An address delivered to the Washington Branch of the American Pharmaceutical Association, January 31, 1917.

¹ Acting Curator, Division of Medicine, U. S. National Museum.

though I am speaking to Washingtonians, to say a few words on the inception and history of the Museum and its collections.

The National Museum was organized in 1846 by the act of Congress transferring to the Smithsonian Institution the custody of the "National Cabinet of Curiosities" at that time deposited in the Patent-Office Building. The act above referred to provides that "all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens belonging or hereafter to belong to the United States, which may be in the city of Washington," shall be delivered to the regents of the Smithsonian Institution, and, together with new specimens obtained by exchange, donation, or otherwise, shall be so arranged and classified as best to facilitate their examination and study.

The National Museum is the authorized place of deposit for all objects of natural history, mineralogy, geology, archaeology, ethnology, etc., belonging to the United States or collected by the Coast and Interior Survey, the Geological Survey, or by any other parties for the Government of the United States, when no longer needed for investigations in progress. (Revised Statutes of the U. S. and the Statutes Forty-fifth Congress.)

It will be noted that the original act did not mention the word "exhibit" or necessarily imply it. During the first ten years after the founding of the Smithsonian Institution, specimens were collected purely and solely to serve as objects of research, no special efforts being made to exhibit them to the public. In 1857, the Institution assumed the custody of the "National Cabinet of Curiosities" on condition that the necessary appropriations for the maintenance of the collections should be continued by Congress. The Congress has up to the present time made appropriations for the National Museum, no financial support coming from the Smithsonian Institution.

The treasures in the custody of the Museum are utilized to the world by exhibiting them to the public, and by encouraging investigations on the part of the officers of the Museum and other suitable persons, and facilitating the publication of the results; also by the distribution to other museums and educational institutions of duplicate specimens, which have formed the basis of scientific investigation, these being identified and labeled by the best authorities.

The Museum by these means fulfills a threefold function. 1. It is a *Museum of Record*, in which are preserved the material foundations of an enormous amount of scientific knowledge—the types of numerous past investigations. 2. It is a *Museum of Research*, by reason of the policy which aims to make its contents serve as fully as possible as a stimulus to and a foundation for the studies of scientific investigators, and its treasures are open to the use of any honest student. 3. It is an *Educational Museum* of the broadest type, by reason of its policy of illustrating by specimens every kind of natural object and every manifestation of human thought and activity, by displaying descriptive labels adapted to the popular mind, and by its policy of distributing its publications and its named series of duplicates.

The Smithsonian Institution has always been extremely fortunate in having the hearty coöperation of the various Departments of the Government in its scientific work. The Navy Department began in 1881 detailing naval officers and young ensigns for service in the National Museum. Under this policy Surgeon-

General Wales detailed Dr. J. M. Flint, Assistant Surgeon, U. S. N., in 1881, to take charge of the medicinal collections. Dr. Flint retained his connection with the National Museum for 31 years.

A full collection of the *Materia Medica* of the world was very early projected as one of the exhibits of the National Museum. In addition to the large amount of drug material obtained at the Centennial Exhibition, the Smithsonian Institution received the promise of aid by Schieffelin & Co., of New York. This firm volunteered to furnish the Museum a complete collection of the drugs then in use in the United States and Europe and sent a representative to the International Pharmaceutical Convention, held in London the summer of 1881, with the special object of obtaining certain obscure and unusual substances that could not otherwise be secured. In 1882 the Agricultural Department transferred to the Museum several large collections of drugs which it had obtained at the Centennial Exposition of 1876.

Great assistance in building up the collections was also rendered at this time by Parke, Davis & Co., Detroit; McKesson & Robbins, New York; Wallace Bros., Statesville, N. C.; etc.

During Dr. Flint's first year in the Museum he published two circulars: one on the "Classification and Arrangement of the *Materia Medica* Collection," and the other "A Classification of the Forms in which Drugs and Medicines Appear, and Are Administered." This list was prepared as the basis of a special exhibit to illustrate the forms in which medicinal substances appear in commerce or are prepared for administration by the pharmacist.

The attempt to obtain a complete collection of the official pharmacopoeias of all nations met with great success and Dr. Flint undertook to compile from these, for use in the arrangement of the collections, a list of all the articles of the *materia medica* of the world and the authorized preparations of each.

In 1898 the more comprehensive title of Division of Medicine was substituted for that of "*Materia Medica*," theretofore used, and the collections were developed along the lines adopted for other branches of human activity. At this time the attempt was made to illustrate the history of medicine, or the evolution of ideas concerning disease and the healing arts. The classification adopted included:

Magical Medicine; Psychical Medicine; Physical and External Medicine; Physiological or Internal Medicine, including drugs; and Preventive Medicine.

The collection of drug plants soon became notable for the great number of carefully printed labels. Dr. G. Brown Goode, in charge of the Museum for many years, described an efficient educational museum as "a collection of instructive labels, each illustrated by a well-selected specimen."

During the year 1912, Dr. Flint, then Medical Director, U. S. N., tendered his resignation as Honorary Curator of the Division of Medicine, and it was deeply regretted that the severance of this connection deprived the Museum of his active participation in the further development of the Division.

As it was founded to illustrate on broad lines the theories and methods for the relief of sickness and injuries as held and practiced by man from earliest historic times to the present, the plan of this Division in the National Museum contemplates an extensive and comprehensive collection which shall be both interesting and instructive. There is a complete descriptive card catalogue of the collection.

If there were time, much might be told concerning the many valuable and interesting specimens comprising the National collections.

The collections of the United States National Museum are already unique by reason of their illustrations of the beginnings of many important American industries and inventions; as shown by the original pieces of apparatus belonging to the telegraph, telephone, phonograph, sewing machine, cotton gin, gasoline automobile, steamboat, etc.

The opportunity is here to gather up and to preserve in a National Institution in the National Capital, the many unique and unreplaceable objects connected with the beginning and early history of pharmacy in the United States, which can still be collected. Will not this Washington Branch of the American Pharmaceutical Association undertake the task?



THE CENTENNIAL OF CHEMISTRY

The centennial of the discovery of oxygen. This celebration at the grave of Priestley in Northumberland, Pa., in 1874, led to the formation of the American Chemical Society. Dr. Chandler is the seventh figure from the left in the second row. Mr. B. G. Amend, Professor Maisch, Dr. Fr. Hoffmann and Professor Bedford are in the center and Professor Remington is the bearded figure at the right of the background.

SECTION ON PRACTICAL PHARMACY AND DISPENSING, AMERICAN PHARMACEUTICAL ASSOCIATION

PHARMACEUTICAL EMULSIONS FROM THE COLLOID STANDPOINT.*

BY LEO ROON.

In a previous paper,¹ the writer traced the development of the various theories of emulsification from 1870 to the present time, and showed how diligently physical and colloid chemists have contributed to the knowledge of the subject of emulsions. Hardly a chemical publication is received to-day that does not present some new phase of emulsion work. Yet, we find, in our own specialized field, pharmacy, that practically no progress has been made for seventeen years, toward a clearer conception of emulsions or a proper utilization of colloid chemical ideas on the subject. If we are too practical to develop theory, then let us attempt to apply the available theory to our practice.

Physical chemists state that an emulsion is a very fine distribution of one liquid phase in another liquid phase. For instance, if an oil is added to water, carefully, so that two separate clear layers exist, we have a system consisting of two different homogeneous parts, each of which is called a phase. If the two-phase system is now vigorously shaken, one of the phases becomes finely subdivided in the second phase; and the resultant produced is termed an "emulsion;" although in the case cited, the resulting emulsion is unstable. That phase which is divided into small separate volumes (in this case, the oil) is called the disperse or internal phase; that phase in which the disperse phase is distributed (in this case, the water) is called the dispersion medium, or external phase.

When a pharmacist speaks of an emulsion, he has in mind, apparently, only one type of emulsion; that is, the oil-in-water type, in which the oil is the internal phase, and the water is the external phase. Cod-liver-oil emulsion is an example of this type, the oil droplets being suspended in water through the intervention of the film of emulsifier.

The physical chemist, however, as indicated by his broad definition, does not specify any one particular type—he is acquainted with two general types, the oil-in-water type, just mentioned, and the water-in-oil type.

In the water-in-oil type, water, which is the internal phase, is emulsified in the oil, which is the external phase. Examples of this type are lanolin, lubricating grease, etc.

Strange as it may seem to most of us, the second, or water-in-oil type of emulsion is by far the more important. Holde² shows that lime and alumina soaps are used in the manufacture of lubricating grease, these soaps acting as emulsifying agents for the water (internal phase). Toch, in his "Chemistry and Technology of Mixed Paints," states that mixed paints contain water as the internal phase.

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Atlantic City meeting, 1916.

¹ JOUR. A. PH. A., 5, 496, 1916.

² Zeit. Kolloidchemie, 3, 270, 1908.

Bancroft³ writes, "Since there are said to be twenty million gallons of mixed paints used in the United States, this type of emulsion (water in oil) is unquestionably the more important one commercially; and it is rather extraordinary that the writers on emulsions should have overlooked this important industry."

In order to determine the type to which a given emulsion belongs, either Robertson's⁴ or Briggs' method may be employed. Robertson's method consists in sprinkling a few grains of the bright-red dye, Soudan III, on the surface of the emulsion. Soudan III is insoluble in water, but soluble in oil. Thus, if the color spreads rapidly on the surface, the emulsion has oil as the external phase and is of the water-in-oil type. If the color remains confined to the droplets of oil with which the grains are in actual contact, then water is the external phase and the emulsion is of the oil-in-water type. Briggs' drop method, however, is as efficient and more simple. It consists in placing a drop of emulsion on a glass plate by means of a rod, and adding a drop of water to the drop of emulsion. The two are stirred together. If the emulsified globules spread in the water, it is an emulsion of the oil-in-water type; but if there is no spreading, it is an emulsion of the water-in-oil. The principle involved is that one can dilute an emulsion by adding more of the external phase.

Having at hand, now, the fact that two distinct kinds of emulsions are possible, and also having methods of determining the type to which an emulsion belongs, it will be interesting to take a few preparations in the Pharmacopeia and classify them according to their types; U. S. P. VIII was used.

The official emulsions of almond, asafoetida, chloroform, cod-liver oil and turpentine bring out nothing new. They belong to the oil-in-water class of emulsions. Among the ointments, cold cream presents a strange problem. This preparation may be considered as an emulsion of an emulsion. The mechanism of the reactions in cold cream manufacture is interesting. The almond oil, wax and spermaceti are melted together, and the solution of borax in rose-water is added. The borax solution is alkaline, due to the hydrolysis of sodium borate, and is capable of saponifying the free fatty acids of the almond oil. This small amount of soap formed emulsifies only a part of the oil-wax mixture, since the proportions of the ingredients are not proper for complete emulsification. The two phases of the system now are: (1) Soap emulsion of the oil-in-water type; (2) the melted mixture of oil and wax. The U. S. P. directs to stir rapidly and continuously until congealed. The stirring has the effect of keeping the internal phase (emulsion 1) finely dispersed while the congealing oil-wax mixture envelops the globules of the above emulsion, No. 1.

The rigidity of the finished ointment prevents the coalescence of the globules of the internal phase. Cold cream, by Briggs' test, is an emulsion of the water-in-oil type, the internal phase being an aqueous soap emulsion dispersed or emulsified in the oil-wax mixture, which acts as the external phase.

Mercury ointment conforms to the general definition of emulsion. Mercury is the liquid internal phase; the emulsifier is the oleate of mercury; and the external phase is the lard-suet mixture. Lard and suet, even though rigid at ordinary temperatures, are considered liquids, since they are non-crystalline bodies. The

³ Jour. Phys. Chem., 17, 501, 1913.

⁴ Zeit. Kolloidchemie, 7, 7, 1910.

preparation may be classed with the water-in-oil emulsions, because of the oily external phase, mercury having been substituted for the customary water as internal phase. Quincke⁵ called attention to a similar case in 1888.

Ointment of mercuric nitrate is another example of water-in-oil type of emulsion. The internal phase is solution of mercuric nitrate; the external phase is elaidin.

Concerning hydrous wool-fat, Lewkowitsch, in the "Chemical Technology and Analysis of Oils, Fats and Waxes," states: "Although insoluble in water, wool-wax possesses the remarkable property of absorbing larger quantities of water than any other wax. The emulsion it forms with water has the appearance of a perfectly homogeneous mass. This wool-wax can be mixed with as much as eighty percent of water." Thus, hydrous wool-fat belongs to the water-in-oil type of emulsions.

The ointments of red and yellow mercuric oxides contain ten percent of water, which is used for levigation of the oxides. The forty percent of wool-wax emulsion emulsifies the water and keeps it permanently in suspension.

In mercury plaster, mercury is the internal phase; oleate of mercury, the emulsifier; and the wool-fat-lead-plaster base, the external phase.

Ammonia liniment belongs to the oil-in-water type of emulsions, the cottonseed oil being the internal phase; a mixture of water, ammonia and alcohol constituting the external phase; and ammonium oleate, formed by the saponification of the oleic acid by the ammonia, acting as the emulsifier.

Because we have always been accustomed to consider carron oil, or lime liniment, as an insoluble soap, it is extremely difficult to become reconciled to the fact that it is nothing more than an emulsion of the water-in-oil type. Suppose that 200 Cc. of lime liniment are to be made, using 100 Cc. of lime-water and an equal volume of linseed oil: One hundred cubic centimeters of lime-water contains, at 25° C., 0.14 Gm. of calcium hydroxide, which, if all used up, is capable of forming only 1.2 Gm. of calcium soap, calculated as calcium oleate. Therefore, if all the calcium hydroxide in the lime-water is used up, it has reacted with approximately only 1 Cc. of the linseed oil, and 99 Cc. of the oil remains unchanged. Why, then, call carron oil an insoluble soap? Carron oil is an emulsion in which water (internal phase) is emulsified in linseed oil (external phase) through the agency of the small amount of insoluble calcium soap formed by the interaction of calcium hydroxide and the free fatty acid of the oil.

As a summary, it will be well to quote Newman's⁶ general statement: "Whether one liquid is emulsified in the second, or the second in the first, depends on the nature of the emulsifier." A hydrophile (affinity for water) colloid, like acacia, sodium oleate, etc., will tend to make water the external phase. A hydrophobe (aversion for water) colloid, like magnesium oleate, rubber, etc., will tend to make water the internal phase.

RESEARCH LABORATORY, ANGLO-AMERICAN DRUG CO.

ABSTRACT OF DISCUSSIONS

H. V. ARNY.—I am convinced that the subject of physical chemistry as applied to pharmacy is one of the greatest possible fields for the professional pharmacist. We have two members of this association, who have started work in this direction. Dr. Wimmer has been engaged in it

⁵ Wied. Ann., 35, 589, 1888.

⁶ Jour. Phys. Chem., 18, 34, 1914.

during the last two years, and lately Mr. Roon has taken up the study. We see the results of it at this moment. Our old fashioned notions about emulsions are bound to be revised, and one of the most interesting things in that connection is that I have been teaching for years that carron oil is an insoluble soap. It never occurred to me to figure out the proportions. I just took the statement of other people.

C. P. WIMMER.—Some years ago I happened to come across an address given before a society of German apothecaries, the Charlottenburg Institute of Pharmacy, by Prof. Thoms, who pointed out some of the practical applications of colloid chemistry to pharmacy. I then started to study colloid chemistry, and found it a field of tremendous possibilities for the practical pharmacist. You have simply to scratch the surface, and there opens a door of new possibilities that are simply unlimited. The trouble is that you must know higher mathematics, which pharmacists, as a rule, do not know. You also must know physiological chemistry well, if you want to do the work thoroughly. Nevertheless, there is no reason why, as we progress, we should not take up this kind of work. Mr. Roon has taken up the manufacture of emulsions. I have been studying viscosity. When I am through with my work, I hope to bring some new facts before you. This work of Mr. Roon shows what can be done. Such work will do more to elevate us in the eyes of scientists, than anything else we could undertake.

L. F. KEBLER.—Some years ago, there was brought before me a product which was sold as lanolin hydrate. The belief being that it was not lanolin, but a mixture of lanolin and petrolatum, I examined it, and could not satisfy myself that it was not pure lanolin; but I referred it back to the chemist, and we finally found that it was a mixture of petrolatum and lanolin. It would mix in all proportions with water, just as the ordinary lanolin does. It is important that the chemist be well qualified to meet extraordinary conditions. In this case, all pharmacopeial methods for identifying the product were unsatisfactory, and it was necessary to establish new methods by which the presence of the adulterant could be established. That required much investigation relative to saponification, emulsification and solubility, as well as all the conditions under which they occur. We finally did establish the presence of the adulterant.

J. U. LLOYD.—Except in eclectic literature, I have made no publications on these lines since 1885. I have been constantly at work since then, however, and have never been discouraged. I agree with our young friend that we have in this field of pharmacy the greatest opportunity that has come to us within the century. It is our field, and we should take advantage of our opportunity. When Dr. Emil Fischeb, in Cincinnati, gave a lecture last winter, on emulsions, I was present; and in the discussion, I said that I regretted the fact that from outside of pharmacy had come that study of emulsions. I thought that it was our field. It requires no expensive apparatus; but the apothecary behind the prescription case could, with the addition of a microscope to the ordinary conveniences of a prescription case, accomplish as much as a man in the laboratory.

I remember well the instructions given me by my old preceptor, Geo. Eger, fifty-four years ago, on the subject of the making of emulsions. Generally the rule is applicable, not only to one, but to all, and I believe that it will work as perfectly to-day as it did a half a century ago. If you use it you will find that you first make a watery emulsion in oil, which then turns to an oily emulsion in water. After the emulsion is made, any alcoholic constituent that may be prescribed is added. Sugar is to be added finally. Then you will have an emulsion that will pass the test.

Let me congratulate this society on this paper. Pharmacy is coming into its own. Structural chemistry will still have its place. It need not, and should not be brushed aside; but the study of these substances and their actions on each other, such as class attraction, structural attraction, cohesion, adhesion, etc., is bound to be recognized. These actions all deal with pharmacy in our plant life and animal life.

U. S. P. AND N. F. PROPAGANDA.*

A PRACTICAL SUGGESTION.

BY EMIL ROLLER.

The question often arises among pharmacists, "Why is it that the physician

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Atlantic City meeting, 1916.

in general makes so little use of the galenical preparations of the U. S. P. and N. F.?" To get a satisfactory answer to this timely and most important question, all guessing and sophisticating will be futile on the part of the pharmacist. To get at the bottom of this fact (or evil) one has to interrogate the physician himself to find out why he resorts more to the special formulas of manufacturers than to the officinal ones: By not only asking one or two, but by the score, one will invariably get the answer that he has not the time to make himself acquainted with these two officinal books, because they are too voluminous. He is interested more in clinical work, he is looking for cases, and therefore the manufacturer supplies him with the special formulae for the particular cases, that come within his treatment. Furthermore, if he wants the effects of a special alkaloid, salt or botanical drug, he specifies the dose and vehicle himself, thus making the vast number of elixirs of both officinal standards unnecessary. This is the case also with many liquors, etc.

The important question now is, "How can this evil be remedied?" Shall all this valuable work of able brains and sacrifice of time and labor be only destined to that limited use it enjoys now or can it be handed to the medical men-at-large in a better and more "attractive form," to induce the physician to take advantage of our professional aid handed over to him in such reliable form as the U. S. P. and N. F. represent? According to my experience it must be done differently than at present. There must be a different edition for the medical practitioner, more concise, leaving out all working formulae intended for the druggist, which do not interest him, also tests of purity and identity should be omitted, neither should the grouping in alphabetical form be adhered to, for him the arrangement according to indications is only of importance. For instance, if he has a certain case and wants to know what officinal preparation he can use and can look in the "Pharmacopoeial and National Formula Guide" or some otherwise titled reference book, where the diseases are alphabetically listed, to select his choice, with formula and dose and quantities of each dose, he surely will make more use of our standards than now.

If we consider ourselves in the position of a busy practitioner, we would appreciate such a helpful "Vade Mecum" very much, while at present it really can not be expected of him to dig out just what he needs out of these two rather voluminous books, suitable for him in each particular case.

The compilation of such a condensed, instructive and practically arranged side edition for the physician would be most welcome to the medical world-at-large and made good use of.

Now with the completion of the Ninth Edition of the U. S. P. and N. F. IV, I think it would be proper to also publish such a "Vade Mecum" or whatever you may call it, for the physician's use, and it will immensely help to make these preparations popular with the medical men and thus bring pharmacists and physicians in closer contact than now predominates.

These suggestions, if heeded by the members of the A. Ph. A. and carried out in the above indicated, or a similar manner, will meet with great success, an object really desired by leading men in both professions. Let us hope for its realization.

SECTION ON HISTORICAL PHARMACY, AMERICAN PHARMACEUTICAL ASSOCIATION

THE BLAIR PHARMACY—ESTABLISHED 1829.*

BY H. C. BLAIR AND ROBERT P. FISCHELIS.

The city of Philadelphia is richer in historical lore and places of historical interest than perhaps any other city in the United States. To the pharmacists of every city and town of our country, Independence Hall, Carpenter's Hall, the Liberty Bell, Old Christ's Church, Betsy Ross House, etc., are well known. Nor is the part that Philadelphia has played in making pharmaceutical history unknown to most of us. As early as 1821 a college of pharmacy was organized in Philadelphia and that venerable institution is now almost a century old. In 1828, seven years after the opening of the Philadelphia College of Pharmacy, Henry C. Blair, who was born at Carlisle, Cumberland Co., Pa., purchased the pharmacy of Franklin Smith located at 8th and Walnut Streets, Philadelphia. Mr. Blair had previously served his apprenticeship under Mr. Smith. He attended lectures at the Philadelphia College of Pharmacy in 1834 and 1835, graduating in 1835.

The fact that this store has remained in the possession of the Blair family since 1829 and has passed from the hands of Henry C. Blair, Sr., to Henry C. Blair, Jr., at the former's death and at the latter's death was turned over to Henry C. Blair, 3rd, its present owner, would be sufficient to make it of historical interest. It has been said that the average life of a drug store in the United States, under any single proprietor is three years. If such is the case the record of the Blair Pharmacy is indeed remarkable.

Mr. Blair, Sr., was the first apothecary to use the title *Pharmaceutist* which was later changed to *Pharmacist*. It is of interest in connection with this title to repeat the following comment from the *Druggists' Circular*, 1907, page 103:

"When the Chicago College of Pharmacy launched *The Pharmacist* in 1868, the *Circular* in commenting on the name adopted for the new journal said: 'We don't quite like the title, for it seems to us not to be exactly naturalized English; at any rate it is an inharmonious word, and far from being an improvement on *Pharmaceutist*, a term better known and with more weighty hindquarters to balance a heavy head and shoulders.' "

Who says *pharmaceutist* now?

In those early days, pharmacies were opened and conducted for the purpose of compounding prescriptions and dispensing drugs. Mr. Blair was an able pharmacist and rapidly acquired the confidence of the medical profession of the city. His son and grandson followed in his footsteps and to this day the Blair store is known as a prescription pharmacy and enjoys the utmost confidence of physicians.

Situated in the old Washington Square district of Philadelphia, the Blair Pharmacy became the prescription store of the entire neighborhood centering at

* Read before Section on Historical Pharmacy, A. Ph. A., Atlantic City meeting, 1916.

this historic square, which was at that time, the residence section for many of the leading old families of Philadelphia.

Blair's Drug Store was also a kind of social center and meeting ground for leading citizens who would congregate there in the evening after the day's work and discuss matters of social, civic, or national interest, around the large old-fashioned stove in the center of the store and the Blair store was known among them as *The Rialto*. Among these citizens may be mentioned Attorney-General Benjamin Brewster, Richard Vaux, Edwin Forest, Henry Carey, Dr. Agnew, Dr. Gross, Dr. Pancoast, Dr. Penrose, Mr. Drayton, Mr. Morris, Mr. George Boker, Mr. Erhlen and others.

The "Old Families" of Philadelphia used and continue now to use Blair's Cologne, Castor Oil & Glycerine Pomade for the hair, Blair's Quinine & Glycerine Hair Tonic, Elixir Iron Quinine & Strychnine, Bitter Wine of Iron, Liquid Rennet, Wheat Food, Medicated Prunes, Racahout, Blair's Tooth Powders, Washes, and Pastes, etc.

The leading dentists of the day entrusted Mr. Blair with the compounding of their dentifrices, White's, Jack's, Birkey's, Briscoe's, Dickey's, Darby's, Hudson's, McQuillan's, Gulliam's, and many other dental preparations originated in this way.

Pharmacy at that time was more complex; physicians wrote prescriptions containing a number of drugs, each added to the compound to meet special indications in the case under treatment. Owing to Mr. Blair's knowledge of incompatibilities and his skill in compounding elegant pharmaceutical preparations, his advice was continually sought by the profession in devising palatable and compatible mixtures.

Blair's Drug Store, therefore, became the incubator from which emanated many of the elegant pharmaceuticals for which those times were distinguished. At Blair's Drug Store originated Jackson's Pectoral Syrup, Jackson's Ammonia Lozenges, Jackson's Compound Syrup of Phosphates or Chemical Food, devised by the celebrated physician and University of Pennsylvania Professor, Dr. Samuel Jackson. Elixir of Iron Quinine and Strychnine which entered and has now departed from the U. S. P. originated in this store, as did also Wine of Beef and Iron and Elixir Curacao.

No pharmaceutical problem capable of solution in a retail pharmacy equipped with better than average facilities was ever or is now sidestepped in Blair's Drug Store. The following instances will serve to demonstrate this contention: "While not a doctor's prescription, the following formula was compounded in this store recently and may be of interest if not of value to some member of our Association:

"One bushel of white potatoes.



BLAIR PHARMACY

"Extract the juice and reduce to one-fifth its bulk and add enough glycerin to preserve.

"*Directions:* Rub in well over the part affected by rheumatism.

"Of course, the juice of one potato was experimented with first.

"From one bushel of potatoes, three gallons and one pint of juice were extracted by grinding and pressing. This juice was freed from starch, as far as possible with a fine straining cloth. Evaporated with direct slow heat to four pints and one pint of glycerin was added. After evaporating, the juice was allowed to cool and became thick like paste. However, repeated strainings and washings removed the starch entirely, and left a dark brownish green extract very unpleasant to smell and taste and irritating to the throat when swallowed.

"The cost of new potatoes was \$2.25, pint of glycerin 27 cents, young clerk's time, day and half, \$2, and the customer was charged \$7.00. The customer said that he had tried a dozen drug stores who had all refused to do the work."

In August, 1916, a physician after trying in New York and Philadelphia to secure *Succus Cineraria Maritima* ordered two ounces made for him at Blair's store. The fresh plant was obtained through the kindness of an employee at a well-known seed house and the juice was expressed and preserved with fifteen percent of alcohol.

Clinical chemical work is also performed in the Blair store but it is not solicited as neither the public nor the doctors seem to be willing to pay for it. All drugs for making tinctures, infusions, etc., are ground in the laboratory of this store, thereby securing the quality, freshness, etc., necessary for producing the best preparations.

Henry C. Blair, Jr., and his brother succeeded their father under the firm name Henry C. Blair's Sons and were prominent druggists, retail and manufacturing, in Philadelphia for many years.

In what esteem the business under their management was held by the medical profession may be judged by the following incident, related to the present Mr. Blair by Dr. Reyburn, of Washington, during the meeting of the American Therapeutic Association in Philadelphia, in 1906. Dr. Reyburn who was one of President Garfield's physicians said:

"During the last illness of President Garfield, the physicians in charge desired a certain drug which they could not get in Washington, therefore, a messenger was sent by special train to Blair's Drug Store in Philadelphia. He secured the drug and hastened back to Washington by special train."

Under the name Henry C. Blair's Sons, a display of Pharmaceutical Specialties at the Centennial Exposition of 1876 in Philadelphia, received a medal and certificate of "Highest Award." Under this name also a branch store, retail only, not manufacturing, was opened at 19th and Chestnut Sts., and managed by one of the brothers successfully for many years, until 1893, when Henry C. Blair, 3rd, joined his father as a partner at the old stand, the brother taking the branch store.

The following quotation, taken from the *American Druggist* of March, 1893, is of interest here: "It is seldom that a similar case of conservatism can be found *viz.*, three generations of this same full name, in the same business and location, and all graduates of the same College of Pharmacy."

The Philadelphia College of Pharmacy some years ago exhibited the original

lecture tickets of the three Henry C. Blairs'—father, son and grandson—thus emphasizing the unique occurrence referred to by the journal quoted above.

Since 1829, the practice of pharmacy has undergone many changes. Rarely is the druggist of to-day called upon to spread a plaster, make conserves or confections or even to turn out a batch of pills. Fluidextracts and other preparations of drugs have come and gone. Yet the Blair pharmacy achieved its reputation by preparing just those kind of pharmaceuticals with the skill of finished artists. Many of the customs originated by Mr. Blair, Sr., are still in vogue at the store to-day, not alone for sentimental reasons but because they are time-tried and have proven efficient.

Many well-known pharmacists of to-day and former years received their training at the Blair Pharmacy and have since followed in their own stores, the methods and ideas inculcated under the tutelage of the Blair's and have been highly successful. Apprentices at the Blair Pharmacy were always well taken care of. The following "Rules and Regulations" originally adopted in 1848 and modified in 1893 were printed and a copy was handed to every new employee. These "Rules" were later incorporated in a chapter on Store Management in *Parrish's Practice of Pharmacy*.

1—Store to be opened promptly at 7 A.M. and closed at 10 P.M.; Saturdays, 10.30 P.M. Sundays, 9 A.M. and 9 P.M.

2—Business hours will include time between 7 A.M. and 6 P.M. on week-days, except when special work requires longer hours.

3—During business hours all hands must be on their feet and employed either in waiting on customers or some other store duty.

4—As waiting on the counter requires most knowledge and experience, the senior clerk must always go front first, then the next oldest. The younger clerks are not to wait on customers except when the older clerks are occupied.

5—In every case customers must be waited on promptly and when goods are to be sent it must be done with the least possible delay.

6—*Never* put up an article unless you are certain you are right.

7—Every other duty must give way to waiting on the counter, except when serious detriment would be the consequence.

8—Every person entering the store, whether rich or poor, infant or adult, white or colored, must be treated with courtesy and kindness.

9—Boisterous mirth and a sullen temper are to be equally avoided as productive of neither business nor business character. The acquisition of a uniformly cheerful temperament is an attainment worth far beyond the price it usually costs.

10—There are to be no master and no servants. Each one is to feel conscious of the fact that the performance of the duties assigned to him are just as necessary and as important as what pertains to any other hand in the store. All useful employment is honorable. Indolence is a disgrace.

11—As neatness, order, cleanliness and accuracy are necessary and not mere accomplishments in a pharmacist, all are required to practice them constantly.

12—Every clerk is expected to become a graduate of the Philadelphia College of Pharmacy and time will be allowed during third and fourth years for attending the lectures (three evenings for Senior course; two evenings and afternoon for Junior course).

13—To deserve the Degree of Graduate will require severe economy of leisure hours, and their application to the study of those books which relate to the theoretical and practical knowledge necessary to make an accomplished pharmacist.

14—Students need but few social acquaintances and they should be very select. While the occasional visit of a well-behaved young friend will be allowed, lounging in the store will not be tolerated.

15—Each junior clerk will have at his disposal an afternoon and evening every week (from 1 P.M. until 10.30 P.M.), and these privileges will not be interfered with unnecessarily.

Rooms are furnished for all clerks in store building.

16—No junior clerk will be allowed to be absent at night after hours without permission. The first and second clerks are expected to be in at reasonable hours, and under no circumstance are both to be away at same time.

17—Each clerk will be allowed two weeks vacation each year.

18—Necessity requires that the store should be accessible on Sunday for the purpose of supplying medicines; beyond this the proprietor is not desirous of doing business on that day, and he enjoins on those in his employ that while they need not positively decline to furnish an article when asked for, to hold out no inducements to purchasers.

19—It is not the wish of the proprietor that any of his clerks should extol an article beyond its merits to advance his pecuniary interests, or to say or do aught in the performance of his duty that he would not be willing that others should say or do to him under the same circumstances.

20—Goods taken from stock for personal use of clerks must be paid for at cost.

21—The proprietor would affectionately recommend and advise all his clerks to attend public worship with a denomination of his own selection, at least once every Sunday, as circumstances may permit. The habit, when accompanied by a corresponding moral deportment (without considering the immense spiritual advantage which may result from it), confers a degree of respect in the estimation of those whose esteem is worth having, that scarcely any other act will.

22—The daily intercourse of the employees should be characterized with the courtesy becoming young gentlemen.

23—Should a clerk wishing to leave before his allotted time expires have a good reason, the proprietor will not probably object, and should his cause be a bad one and be persisted in, the proprietor will certainly not offer hindrance to his going. The proprietor depends on the honor of the individual.

24—A cheerful compliance with the foregoing rules is expected and the repeated infraction of a known regulation will be cause for immediate dismissal.

The text of these rules clearly shows what type of man could be expected to hold a position in this store and the fatherly interest which the proprietor took in the men in his employ.

There is in Mr. Blair's safe, a clerk's book which contains the complete record of every clerk or apprentice who has ever been employed in the Blair Pharmacy. A short biography, the length of time spent at the store, salary and increases as well as dates of entering and leaving the employ of Mr. Blair together with other information which may help to keep track of the man are found in this book. This register of clerks is still being kept and the information mentioned above is recorded. The proprietor is thus prepared to give definite and accurate information about his clerks whenever necessary. How many other proprietors could do likewise? Evidently affidavits to support statements of length of time spent at Blair's store are not considered as mere "scraps of paper."

It is refreshing to enter a drug store in a busy section of a large city and feel the atmosphere of the old apothecary shop. Absence of patent medicines from general view; displays of pharmaceuticals made or put up by the pharmacist, a large roomy section for laboratory and prescription purposes, an additional section with machinery for manufacturing on a fair scale—all of these carry us back to the days of the respected apothecary of old, or may we be so bold as to say that they give us an inkling of the distant future.

There are so many excellent pointers that one can gather from the prescription room of this establishment that the writers have omitted them here and contributed them in the form of a separate paper to the Section on Practical Pharmacy and Dispensing.

Whether or not the financial returns are as great in a store of the Blair type as they are in some of the department drug stores of to-day is, of course, an open question but there is no questioning the fact that the satisfaction which the Blairs have had in really practicing pharmacy professionally is greater compensation for their efforts than could be represented by a few extra paltry dollars.

MY EARLY IMPRESSIONS OF THE DRUG BUSINESS.*†

BY W. L. DuBOIS.

The Chairman of the Historical Section has written to ask me if I would prepare a paper on my impressions of the drug trade when I first entered it. I will endeavor to do so, but it must be from memories of long ago. In the spring of 1851 I was attending the school of the Collegiate Reformed Dutch Church in New York. On leaving school one day my teacher, Mr. H. W. Dunsher, asked me if I would like to take a position in an wholesale drug house. He informed me that Mr. Bradhurst Schieffelin had asked him to recommend a good lad and he had suggested me. I went home, talked the matter over with my father, and I concluded to go down town and make an application for the place. The store was then located at 104 and 106 John Street. The first person I met on entering the store was Mr. W. A. Gallatly, with marking pot in hand, as he was shipping clerk at that time. He sent me in the office to Mr. J. H. Westerfield and he took me to Mr. James L. Schieffelin. After a long talk I was engaged at a salary of fifty dollars a year, and given a small desk in one corner of the office. As I remember the firm of Schieffelin Bros. & Co., it consisted of Samuel B. Schieffelin, James L. Schieffelin, Sidney Schieffelin, Bradhurst Schieffelin, A. D. Randolph and John Dix. Mr. Randolph and Mr. Dix with Mr. Westerfield attended to the out-of-town business, and Mr. Horace Willard to the city business. Mr. Willard I remember as a fine old gentleman, loved and respected by every one, and many a red apple, pear or orange I found on my desk put there by him. He died the following winter and his place was taken by Mr. Walter Coon.



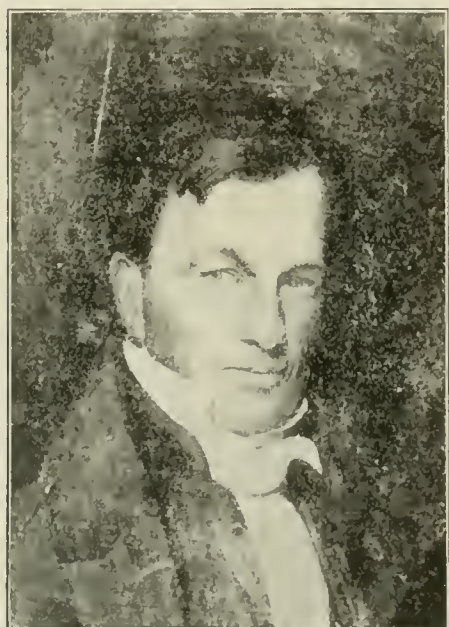
W. L. DuBOIS

The John Street store was connected by a covered glass stairway with a store on Platt Street, where all the orders were put up. My first errand, I remember well, was an order for some pressed herbs at W. T. Peck's, a few doors above on John Street. My work was to get the mail three times a day, to take the bills of lading to have them signed, and to carry the monthly statements to some of the old drug houses, among whom were McKesson & Robbins, B. A. Fahnestock, A. B. & D. Sands, Ward Close & Co., Philip Schieffelin, Israel Minor and S. R. Van-

* Read before Section on Historical Pharmacy, A. Ph. A., Atlantic City meeting, 1916.

† The three historical papers (including this one) have an interest for pharmacists because they link the past to the present in American pharmacy; the personal touch, quite naturally, enters into the writings.

deuser. My second year was a repetition of the first, the third year I was transferred to the City Order Department and there I was taught to put up square packages. It was that same year, if I remember correctly, that the firm removed to a larger building just then completed at 170 William Street, corner Beekman, the business was increasing, but we had plenty of room to work in the new building. Among the boys at the city counter was Mr. D. R. Noyes, who later, when the sundries department was added, was put there under Mr. Elihu M. Weed, who was in charge. Mr. Noyes went to St. Paul when he left Schieffelin's and there he eventually became the head of a large wholesale drug house. Some of the others associated with me at that time were Theodore Edwards, Israel Coon and Jacob Ring. Edwards was taken downstairs to assist Mr. W. H. Schieffelin in the buying department. Mr. Walter Coon had charge of the City Department with a Mr. Meyers as cashier. Mr. Meyers being in poor health was succeeded



DR. ABEL BRACE



DR. THOS. O'HARA CROSWELL

by Mr. W. S. Mersereau. After Mr. Coon's death Mr. Mersereau was put in charge of the department. I was put in charge of the city counter where the goods were put up. Goods going to Jersey City, Brooklyn, and New York City were delivered by express, and 12 M. and 5 P.M., when they had to be ready for delivery, were busy times.

I remained in the same position till March, 1863, when Mr. Benjamin Wey, whom I had known for a long time as an old customer of the House, made me a proposition to go in business with him at Catskill, and I accepted, arriving there on the last day of February, 1863, which fell on Saturday that year. On Monday morning I came to the old store which had been established in 1795 by Dr. Thomas O'Hara Crosswell and Dr. Abel Brace. Thomas O'Hara Crosswell had come from

Connecticut and was a practicing physician. There never has been, or will there probably ever be, one of the profession who did, or will secure, the confidence, esteem and love in which the good old "Uncle Doctor" was held by all ages, sexes, classes and conditions of men. Perhaps as great a share of love, esteem, and confidence as could be transferred from this excellent old man to any other was possessed by Dr. Abel Brace, his protégé, student and partner, and who succeeded not only in business, but in the affections of the people. This will give you an idea of the two noble men who established the old drug store. Dr. Croswell was interested in many things. He, with his brother Mackey, founded the first newspaper published in Greene County, and it was called *The Catskill Packet and Western Mail*. It was printed on coarse blue paper and the latest intelligence was brought by the fast sailing packet sloops which in those days made the passage from New York to Catskill (wind and weather permitting) in something less than six six days. This sheet also contained a goodly array of advertisements, and were interspersed with wood cuts which were said to be the handiwork of the doctor. His brother told that one of them was intended to represent a very black negro in the act of running away with a bundle attached to a stick swung over his shoulders. He said that "Tom sat up shivering through four d— cold nights to cut that little nigger." After he started the store he found that this, with his medical practice, was all that he could attend to, so he gave up the paper. They did a large business in oils, paints and dye woods, and they furnished all the doctors from Catskill to Delhi with their calomel, jalap, ipecac, etc.

When there was a post-office opened in Catskill Dr. Croswell was appointed post-master by George Washington. How well and how faithfully he performed his duties may be inferred from the fact that through all the changes of politics he had the appointment up to the time of his death—fifty years. I quote here from an article written at the time of his death, which occurred in February, 1844. The writer says: "My earliest recollections of Dr. Croswell are associated with the sugar plums and licorice sticks with which his capacious pockets were stored, and which for all my youthful ailments were a sovereign panacea, and whose sweet flavor still seems to linger on my tongue. I remember his kind looks and cheerful laugh, and can recall the very words of the nursery rhymes which he essayed to sing. Albeit, the melody was not of the richest, nor the music precisely such as would be adapted to a modern concert room, for the chiefest merit's of the Doctors warbling was, that it came directly from his benevolent heart. So from early manhood to old age he lived and labored in the village of Catskill. Many whose first earthly gaze was upon the doctor's face grew up through childhood and youth to man's estate, and then gave their last look to that same kind face as they passed away forever. Few who began life with him here remain, and yet he lingered to minister to the children and children's children of his early associates and friends. With no family except his excellent wife, he acquired a fair proportion of this world's goods and was esteemed quite wealthy. Possessed of a liberal mind, and desirous to contribute to the welfare of all around him, and confiding in the integrity of his fellow man, he parted with a large portion of his means, and lived to find his confidence misplaced, and his hard-earned gains virtually lost. Years and incessant occupation had at last begun to leave their mark upon him, and one winter morning we heard that God had called him home."

Mr. William H. Wey, who married Dr. Crosswell's adopted daughter, succeeded to the business which he conducted until his death in 1856. Then Mr. Benjamin Wey conducted the business after his father's death for a number of years alone. Then he associated with him Mr. Edward Lavelle, but that partnership lasted only a little over a year, but during it the old store was remodeled in 1861, and at the time was considered one of the finest up-to-date stores on the Hudson River. In the spring of 1863 I became associated with Mr. Wey. The firm was "Wey & DuBois" for thirteen years, when Mr. Wey retired after a very pleasant business relation, in 1876. Since then the writer has conducted the business, but what a change! When I came to Catskill in 1863, we did an extensive business in paint, putty, and window glass, dye woods, potash, and Lorillard's snuff. Every farmer's wife in the fall would get in her supply of extract of logwood, cochineal, muriate of tin and indigo, and would send her wool to the little fulling mills, which were to be found on nearly every stream, to be carded, and she would do the spinning of the yarn and the dyeing during the winter. It was a very common thing to receive, about the last run of the boats, our extract of logwood, logwood chips, fustic, madder and red wood to carry us through the winter. Another great trade was potash. Every family at that time made their own soft soap and it did not take long to get rid of a seven-hundred-pound cask of potash. That is all done away with now, for the people are using the aniline dyes in place of making their own, and there are few now who make their own soft soap. In the old days we sold large quantities of Lorillard's Maccaboy snuff and Scotch and French rappe snuff, probably as much as a ton in the course of the year, that has gradually grown less until now we sell only about two hundred and fifty pounds in a year, quite a falling off as the younger generation have not followed in the footsteps of their grandparents in regard to that habit. We used to supply the country stores with essence of peppermint, wintergreen and castor oil and extract of lemon and vanilla. The railroads and the commercial travelers have changed all that now. The doctors carry their own medicines and put up their own prescriptions, except where there are ointments, liniments or suppositories to be made, we druggists get those. It is the manufacturing of tablets that has hurt the prescription business and made it easier for the doctors. One would scarcely recognize the business of to-day as compared to fifty years ago. My friend, Mr. Wey, remarked a few years ago, "If I was to come in the store now I would not know where I was at." Our trade is simply a local trade and to make ends meet we have to put in lines of trade we would not have thought of doing years ago. The changes since I came to Catskill fifty years ago are very great. All the old people have passed away, and I am the oldest man in business in the town now. I am very thankful for the good health that enables me to attend to business every day. I have had the pleasure of seeing my family grow up and am the proud father of nine children, four grandchildren and two great grandchildren, quite enough for one old man.

REMINISCENCES.*

BY THOMAS D. McELHENIE.

On August 7, 1865, I entered the drug business in Wooster, Ohio, my father

* Read before Section on Historical Pharmacy, A. Ph. A., Atlantic City meeting, 1916.

having placed me with the wholesale and retail firm of Zimmerman & Company where he bought grocers' drugs, groceries, paints, glass, etc., for his village store in that county.

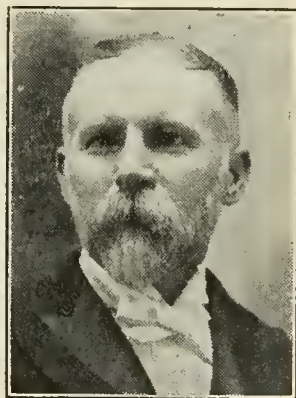
The firm did much the largest trade in the town in their day but not much in pharmacy. My job ranged from cub through porter, shipping clerk and entry clerk. When Abraham Boyd, a salesman for James R. Nichols & Co., of Boston, spent some days there in the early summer of 1870 I had been for some time the senior drug clerk. Mr. Boyd was an alumnus of the Philadelphia College of Pharmacy and put me in the notion of going there to study and "be somebody." In the five years I had not gained much headway in pharmacy, but I had learned to work and to use both hands, filling cans of *Carbon Oil*—now called kerosene—and barrels of sugar from the great boxes of Demerara and casks of New Orleans, which in that day came to us up the rivers, to Cincinnati or sometimes to Pittsburgh. Many and many a cold day I spent in the fireless warehouse crumbling these sugars by hand into salable form. My greatest acquisition in those five years was the love of a woman but I was not to know it till a few years later.

The firm and my father being agreeable, the matter of going to college was arranged, and in September, 1870, I traveled to Philadelphia. Starting out bright and early from the Bingham House, my first acquaintance was the jolly old Irish Quaker, Wellington Boyle, the head man in the retail part of the old establishment of Charles Ellis at Tenth and Market. As I was looking for a job he told me the best way was to just beat up the town, walk up one street and down the next trying every drug store, taking Tenth and Market as a base. I did just that, and when I landed a place in three or four days it was just across the street from the boarding house where I had already located and the nearest drug store to the College, namely, that of Lancaster & Bros. at Tenth and Arch. This is the old business of William Hodgson, dating from 1829.

Mr. Hodgson was not a graduate but had started this business, as above stated, about 1829. In Bullock's biography of Daniel B. Smith, who was, I think, the first president of the Philadelphia College of Pharmacy—it is stated that Smith & Hodgson started at 6th and Arch about 1828 and were succeeded in 1849 by Bullock and Crenshaw. This would indicate that Mr. Hodgson was a partner in one shop and owner of another. Mr. Hodgson and Mr. Frederick Brown, the first, were contemporaries, both tried their hands at Essence of Ginger at about the same time. Hodgson's product never attained extensive sale.

Thomas A. Lancaster graduated in the class of 1859. The date of his succession to the business of Mr. Hodgson I have not ascertained. It has passed through several hands since, the present owner dating 1893. The property still belongs to the Hodgson estate. I remember, during my time, an old gentleman, in Quaker garb, coming in for his rent about the first of every month.

I secured the place as clerk on the strength of a reference to Mr. Haffelfinger of Claxton, Remsen & Haffelfinger, publishers and booksellers, an offshoot



THOMAS D. McELHENIE

of the Lippincott house. The Wooster firm had given me a letter to Mr. Haffelfinger, and Lancaster & Bros. were occasional buyers of stationery there. This old drug store was and still is an awfully crowded place. It had a gallery of iron rods and heavy wire, reached by a short iron ladder, something like a fire escape and rather shaky. One use of that gallery was to lay up there for drying box lids of charcoal biscuits, lumps of a mass of charcoal, flour, etc., about the size of horse chestnuts. The store was headquarters for several specialties running back to Mr. Hodgson's time, one being Diamond Cement; another was "Solution of Morphia Meconat," which the jobbers would send for, paying \$4.00 a pint. We made a great deal of Syrup of Stillingia Compound, most of it dispensed on prescriptions of a certain Dr. Buchanan down about Ninth and Arch. These prescriptions were always for a pint, chiefly the syrup and frequently potassium iodide was added; for dispensing they used the old style Congress Water bottles, dark green, heavily lettered. We made five gallons at a time and distilled off the alcohol from the percolate; for this purpose there was in the cellar a copper still built up in brick work. I suppose Professor Lloyd's process was used; he has assured me lately, that the old process was absolutely unworkable. By the way, speaking of Lloyd reminds me, if these notes seem trivial and tiresome, take it out of Lloyd; he put me up to it.

A few years before my time at Lancaster & Bros., the store had a large trade in the scientific but dangerous chemical toy called *Eggs of Pharaoh's Serpents*.

The store of Isaac H. Kay where our genial friend Tom Potts was clerk for several years, was located at Eleventh and Arch Streets. Mr. Harry Rittenhouse was a great friend of the firm and often dropped in; the licorice business was young then. Years afterwards when I was chairman of the Library Committee of Kings Co. Pharmaceutical Society, Mr. Rittenhouse, at the suggestion of Professor Maisch, donated to us his annual volumes of the Proceedings A. Ph. A. A steady and notable customer of that old store was old Dr. Geo. B. Wood, who lived a little way up Arch Street. We put up for him often a dozen or more four-ounce bottles of a carbonated draught, about the same as Rhubarb and Soda Mixture, plus a little Lavender Compound, and charged the preparation at the fountain and tied the cork down. The junior partner, Billy Lancaster always did this job.

Professor Parrish's store was located at Eighth and Arch. In my time, Elliott Paxson and Carl Fruh were clerks there and Clemmons Parrish also, who afterward came to Brooklyn. His son Dr. Edward Parrish is practicing medicine there. Both the dental colleges were on opposite corners from our store and we made a variety of tooth powders. Among the friendly medical patrons I recall Dr. John M. Adler, Dr. Edward Schoefield, Dr. Harrison Allen, and one of the earliest women physicians, Dr. Hannah Longshore. Dr. Harrison Allen wrote the handsomest prescriptions I ever saw.

Early in 1871, the Philadelphia College of Pharmacy celebrated its fiftieth anniversary; a feature was an exhibit of implements, books, etc. I recall carrying up as part of our share a copy of the Pharmacopoeia of 1820. One of our class of 1872, was Horatio N. Fraser, who practically created the tablet business. Another was B. T. Fairchild, whom I have for many years regarded as the leading authority on digestive ferments for the English-speaking world. Both of these men are still busy at their appointed tasks. During the academic year 1870-71,

the professors were Robert Bridges (Dean), Edward Parrish and John M. Maisch. All of these men I soon learned to esteem very much, but I soon realized that for the student, who was in earnest, Professor Maisch was his best friend. The summer of 1871 I spent at home, helping in the village store and pegging away at the problems in Roscoe's chemistry and working on my thesis, "The Acids of Tomatoes." The opening of the term 1871-2, if my memory serves me, brought the entry of Professor Remington as assistant to Professor Parrish. During that winter there was installed a beautiful little distillatory and evaporating outfit of polished copper and in the course of several evening lectures, Professor Remington carried on the manufacture of a lot of extract of gentian. I have often wondered what became of that extract.

During the previous winter I had gotten a chum and have him yet. Some of you will remember him, Mr. Joseph Cave. He's English you know. He and I were the pair sometimes called Damon and Pythias by the other boys. Another comrade of the same class and in the same boarding house was John H. Dawson, of Brooklyn, but for many years past in San Francisco and Local Secretary for the A. Ph. A. meeting last year. Like Cave he was red-headed.

In the Spring of '72, soon after graduating, I secured the post of chemist with Benton, Myers and Canfield, of Cleveland, and there William McIntyre found me when he came on for the annual meeting of the American Pharmaceutical Association and put me down as one of the delegates from the Alumni Association to fill a vacancy. At that meeting I learned to know Bedford and Ebert and to improve my fellowship with Remington. During that meeting telegrams arrived announcing the death of Prof. Edward Parrish at Fort Sill, I. T., and of Dr. Henry T. Kiersted, of New York. Prof. Parrish who was one of a Commission named by President Grant to treat with certain Indian tribes was on his way to the place of meeting.

A turn at typhoid fever sent me home from Cleveland and vacated my position. One of our class, Albert C. Curtis, my fellow boarder in Cleveland took me home. He was shot about three years after on a ranch in Wyoming. In June, 1873, I started on the road for French, Richards & Co., of Philadelphia. The next move was to New York on an introduction by Professor Bedford to his successor, Mr. Geo. G. Sands, just opposite the present Hippodrome. It was my privilege one day that summer in response to a line from Prof. Maisch to join him at Frederick Hoffman's store down Sixth Ave. for a chat. During that year, 1874, Henry S. Wellcome came to New York and located at Caswell, Hazard & Co. Later he went on the road for McKesson and Robbins; Wellcome's chief work on the road was to introduce their gelatine coated pills, just then born. Then after a tour of South America, Wellcome and his friend Burroughs, a Wyeth traveler, went to London, and Wellcome's great work in pharmacy since is a proud possession of this Association. He was lately in New York for a day or two, leaving *via* Montreal for Alaska.

In the spring of 1876, I purchased a drug store and in the following September, I captured that Wooster girl I spoke of. I still have both the drug store and the girl. She says if I make any fuss about our fortieth wedding anniversary I will be making her out an old woman.

In that forty years I have had a hand in the "borning" of the King's County

Pharmaceutical Society, the New York State Pharmaceutical Association, the New York Branch of A. Ph. A., and had the great privilege as a representative of King's County Pharmaceutical Association to take part in the making of the National Formulary, first edition, under the guidance of Dr. Charles Rice. Many members of that committee now rest from their labors.

I have done nothing notable but have tried to keep the faith in good pharmacy.

GLYCERIN.

Glycerin was discovered by Scheele in 1789, who called it "the sweet principle of oils." Its value was not recognized for many years, but to-day it is in universal use, not only pharmaceutically as a solvent and preservative, but also for the production of nitroglycerin and explosive compounds. When absorbed by infusorial earth, saw-dust, mica powder or other inert material, nitroglycerin forms the different varieties of dynamite and when combined with gun cotton, it constitutes the explosive known as "blasting gelatin."

The commercial production of glycerin was initiated in this country by Robert Shoemaker, of Robt. Shoemaker and Co., of Philadelphia, in 1846, who obtained it as a by-product in the manufacture of lead plaster; this glycerin, states Dr. S. P. Sadtler (*Jour. Ind. and Eng. Chem.*, December 1916) was exhibited by Prof. William Procter to his class at the Philadelphia College of Pharmacy at the time. Mr. Shoemaker manufactured and marketed glycerin for some years.

As first obtained, glycerin was quite odorous and the late Henry Bower, of Philadelphia (later the Henry Bower Chemical Manufacturing Company), worked out, in 1858-60, a successful method of manufacturing odorless glycerin by purifying the waste liquors obtained in the manufacture of stearin candles, and he marketed it in large quantities.

At the present time, glycerin is made in enormous quantities in a number of American cities, and while its use pharmaceutically is large, its use in the arts is far larger.

Perhaps the largest use of glycerin is for the making of explosive products, such as nitroglycerin, dynamite, etc. The E. I. DuPont de Nemours & Co., of Wilmington, Del., recently state in their catalogue:

"The railroads that span the continent and the Panama Canal that cleaves it were all the products of explosives. The coal that cooks our food, warms our homes and provides power for our factories, railroads, steamships and electric lines is all mined with explosives. This is also true of iron, copper, lead, zinc, silver, gold and other metals. Your modern office building is the child of explosives—dynamite blasted the rock for its deep-seated piers. Dynamite mined the iron ore from which the steel was made. Dynamite quarried the rock of which concrete is formed.

"The farmers of America use almost 25,000,000 pounds of dynamite a year for clearing land, draining swamps, planting trees and breaking impervious sub-soils."

And it is inspiring to pharmacists to know that all this was made possible by the work of a Swedish apothecary and the commercial acumen of a Philadelphia apothecary.

J. W. E.

THE HOUSE OF DELEGATES, AMERICAN PHARMACEUTICAL ASSOCIATION

MINUTES OF SECOND SESSION.

The second session of the House of Delegates was called to order by Chairman H. P. Hynson at 4.35 P.M., September 6, 1916, at the Hotel Chalfonte, Atlantic City, N. J.

CHAIRMAN HYNSON: The matter of prescription prices comes officially before the House of Delegates through the authorization of a committee to report upon the subject. I was fortunate in getting Mr. Mason to act as chairman; he has given a great deal of attention to it, and published much regarding it in the *Bulletin of Pharmacy*. I call upon Mr. Mason to present his report on prescription pricing.

H. B. MASON: Mr. Chairman and gentlemen, this is a report of the Committee on Prescription Pricing:

PRESCRIPTION PRICING IN A BAD WAY.*

Prescription pricing is certainly in need of reform.

If the average druggist knew the facts about his own business, he would be surprised to find that prescriptions brought him no profit at all, and in some instances even meant a loss.

This is a somewhat sensational statement, but we believe it to be the truth. Some time ago, for instance, an investigation was made throughout the country with reference to the following prescription:

Potassium Iodide.....	4 drachms
Syrup Sarsaparilla Compond.....	3 ounces
Elixir Lactated Pepsin Q. S.....	6 ounces

The prices set by a large number of druggists, scattered in States all over the Union, some of them in cities and some of them in the country districts, ranged from fifty cents to a dollar and a half!

Since then the price of potassium iodide has risen greatly. At that time the cost was such that, in accordance with the Evans' rule, which we shall dwell upon later in this report, the prescription should have brought a price of ninety cents to yield a satisfactory measure of profit. With those druggists who set a price in excess of ninety cents we have no quarrel at all, but it remains a somewhat significant fact that 70 percent of them all were ranged below the ninety-cent figure. In other words, only 30 percent of a considerable number of druggists would have made a decent profit on this prescription, whereas in many cases an actual loss would have been suffered.

Much the same condition of things has been found to be true time and time again.

In Detroit, a year or so ago, twenty-five druggists were separately asked what they would get for one fluidounce of a saturated solution of potassium iodide. The prices ranged from fifty cents to a dollar and a quarter. And at the same time the cost of the iodide was about thirty cents an avoirdupois ounce.

And so we might go on citing conditions, only to reach the same conclusion—that there is a great and needless disparity in prices, an utter lack of scientific cost calculation, and frequently an absence of actual profit.

If prescription pricing were to be put on a scientific basis, as it ought to be and might be, prices would be more or less uniform everywhere, and it would not be possible to find such wide differences as are disclosed by every investigation that is undertaken. How can such a scientific system be elaborated?

* Report of a Special Committee presented at the Atlantic City Meeting of the House of Delegates of the American Pharmaceutical Association.

First let us consider some of the present evils.

Chief among them is the old custom of making a flat price. Many druggists are still following the practice of charging 30 cents, say, for a two-ounce mixture; 40 cents for a three-ounce mixture; and 50 cents for a four-ounce mixture.

This flat-price system is fundamentally wrong. To charge 60 cents uniformly for four ounces of medicine, regardless of greatly varying costs, is little less than absurd. One might as well get 15 cents an ounce for every fluidextract, whether it costs him four cents or forty. He might as well ask a uniform price of twenty cents for every box of stationery whether it costs him ten or sixty.

Then, too, we often find a man who bases his price for a prescription on the size of the dose. For a given mixture he will get a dollar if teaspoonful doses are ordered, and fifty or seventy-five cents if dessert or tablespoonful doses are indicated. There may be cases where this sort of thing is excusable, but not often.

Many druggists, again, are getting no more for prescriptions than they obtained fifteen or twenty years ago. In the meantime conditions have changed radically.

In the first place, the old days when galenicals comprised almost the entire materia medica have largely passed into history. Foreign synthetics and domestic pharmaceutical specialties have come into use—and they usually cost more money. The expense of doing business has greatly risen during the last decade, and we have here a subject which has enlisted the keenest study of economic experts in all the large mercantile establishments throughout the country.

During the last two years, moreover, nearly the entire world has plunged into a great war, resulting in a steady and marked advance in the price of nearly everything. Has the druggist compensated himself for these advances by charging higher prices for his own goods? In many cases we fear that he is failing to do so, especially with prescriptions.

The trouble is two-fold: in the first place, the average druggist has only a vague idea of what it costs him to dispense a particular prescription; and in the second place, he doesn't have nerve enough to charge what he ought. Both faults are fatal.

This ignorance of costs is well nigh universal—not only in the drug business, but everywhere else. The statement was made the other day at a big convention in Philadelphia that 2000 out of 2400 wholesale and manufacturing concerns were found to be losing instead of making money. If larger companies of this kind do not know what it costs them to do business, how can we expect the retailer to be well informed? And yet he has got to be well informed in the future if he is going to avoid economic destruction.

Take, for instance, the comparatively small item of prescription containers. In these days a container frequently costs ten or fifteen cents. A druggist will often put up an ounce of an eye mixture in a dropper bottle, where the bottle itself costs him ten cents, and then ask only twenty-five cents for the product. Some of the ointment jars are now very expensive, but the druggist doesn't stop to think these things out and doesn't realize what his costs are.

The time consumed in dispensing a prescription is often an important factor. An hour's time may be required, and if this labor doesn't return its due profit, the transaction is certainly an undesirable one. The prescription equipment is often ample, and involves a steady loss on the investment that must be adequately compensated if the prescription business is to return its fair yield of profit.

But, as has already been stated, many druggists hesitate to get what they should for their prescriptions out of fear of what their neighbors and competitors will do. With this policy of fear it is difficult to be at all patient. As a matter of fact, the big down-town druggist, who is usually looked upon as one's greatest competitor, gets far better prices for prescriptions than does the small neighborhood apothecary. Of the truth of this statement there isn't any doubt at all.

Furthermore, we have repeatedly found it to be the fact that a man who had the nerve to charge decent prices for his prescriptions would be located right across the street from another druggist who charged little more than half as much, and yet the high-priced man would be walking away with nearly all the business. He had confidence in his goods. He gave prices without any apology. He stood on his dignity. He gave the very best of services, used the finest of containers, and did everything as it should have been done.

There isn't anything at all in this fear of what a competitor will do. It is folly to consider the question. The successful druggist, by virtue of the very fact that he is a success, is a druggist who realizes the necessity of charging decent prices for his prescriptions. Therefore, one need

not fear the competition of any successful or large store. The only druggist who gets low prescription prices is the unsuccessful man—and competition from him isn't really competition at all. It doesn't need to be considered.

Now we come to the point where we may consider the proper method of pricing prescriptions. Many systems have been advocated from time to time, and the National Association of Retail Druggists has adopted a schedule which is to be commended. The only fault we find with this schedule is its complexity. Practically the same result is to be secured by what has become known as the Evans' rule, and this is very simple to remember and very easy to apply.

The Evans' rule is merely this: *Get a profit approximating 100 percent on the cost of the bare material and container, and then charge a dollar an hour for actual time consumed in compounding.*

If every druggist in the United States were at once to adopt this rule, were to apply it universally, and were to base it on a proper knowledge of the actual cost of material and container, he would make a satisfactory profit on his prescription business.

Of course this rule, like every other rule under heaven, should be applied with some discretion. There are exceptions to every rule. There ought to be, for instance, a minimum figure beneath which the druggists should never go. Some of our correspondents have suggested fifty cents as this minimum figure. In other words, they have taken the position that a druggist should never, under any circumstances, dispense a prescription for less than fifty cents. We are inclined to think, however, that this minimum is rather high.

Another exception to the rule should be made in dispensing a proprietary preparation. Here the patient often knows what the product is, and knows the price of it. Furthermore, to put up such a prescription is really not to do any scientific work, or to expend much time and labor, and a large profit is perhaps not excusable. At any rate, it isn't expedient.

Perhaps, too, other exceptions may be made in the case of very inexpensive or very costly mixtures. Some druggists believe that one should be satisfied with a smaller profit where unusually expensive substances are involved, and that compensation may be realized where rain water is present in larger volume. There may be something in this contention, but we are inclined to think that the idea has always been overworked.

It seems to us that prescription pricing ought substantially to be like the pricing of anything else. The price should be based on the cost, plus expenses, plus a reasonable net profit. Any other method is artificial. Any other method is unjust and uncertain. This is the simple rule followed by every capable merchant and manufacturer, in every line of trade, and with every class of goods.

Passing by the Evans' rule, we may say that other methods have been worked out here and there by different druggists. Thus Cornelius Osseward, of Seattle, arrives at the average cost of dispensing every one of his prescriptions. He does it in this way: he takes the entire cost of his prescription department for any one year, including, presumably, every item like rent, light, heat, labor and all the rest of it, excepting the cost of material and container, and then divides this amount by the number of prescriptions dispensed during the same period.

He has found that, in his own case, it costs him an average of fifteen cents to dispense every prescription, and he keeps this amount constantly in mind whenever he fixes a price. He reasons that if he adds fifteen cents to the cost of material and finishing, and then sticks on his net profit, he can't make a mistake. This is all right, except that, as will readily be seen, it is unwise to attach such an average expense to a prescription unless it is, as we might say, an average prescription. For one prescription might involve an expenditure of only five cents, and the very next one an expenditure of fifty cents. Doubtless Mr. Osseward thoroughly understands this and governs himself accordingly.

A good deal of significance attaches to the average price yielded by prescriptions. When taken individually, prescriptions differ widely, but when a large number of them is grouped together, they average up pretty much the same.

We have found that in the case of the larger druggists, who thoroughly understand their costs, and who get good prices, the average price received runs from sixty to sixty-two cents. With the usual druggist, on the other hand, the average is fifty cents or less. Here you find proof of the statement already made in this report, namely, that the ordinary druggist doesn't get as much for his prescriptions as the big dealer does who is supposed to be a cut-rate man.

An investigation made by F. W. Nitardy a year or so ago showed that 10,000 prescriptions, collected from ten different stores, averaged fifty cents each. The average cost of the material and containers was twenty-one cents, and the average expense was eighteen cents. This meant a total cost of thirty-nine cents for a prescription that brought fifty cents. An average net profit was left of only eleven cents.

If, now, the average price of fifty cents were to be increased to sixty cents, the net profit of eleven cents would then become twenty-one cents. In other words, if the druggist could add an average of ten cents to the price of his prescriptions, he would practically double his net profit!

Let us apply the Evans' rule to the situation. The material and container cost twenty-one cents, and by starting with a 100 percent advance on this cost we arrive at forty-two cents. We charge one dollar an hour for labor, and, assuming that the average prescription consumes twelve minutes, we have an item here amounting to twenty cents. We thus arrive at a selling price of sixty-two cents. This, significantly enough, is just about the average reached in the most successful stores, and it would mean a net profit on every prescription of twenty-three cents instead of eleven cents.

Why not use the Evans' rule? It is simple. It is just. Properly and wisely used, it will result in making the prescription business yield its fair measure of profit, and it would put the small druggist on all fours with the big druggist who gets decent prices for his prescriptions.

Signed, HARRY B. MASON,
F. W. R. PERRY.

To the foregoing report Mr. George M. Schettler, a member of the committee, adds the following by way of comment and amplification:

1. Since the advent of war costs, prescriptions priced carefully according to the Evans' rule have increased from an average of 62 cents to an average of 72 cents. This fact constitutes an important qualification of the statements made in the report of the committee.

2. War costs, in a way, are a great blessing to the retail druggist. They have made it necessary for him to advance his prices all along the line, and if he is wise he will keep them up permanently.

3. And yet there is another consideration. How far can prescription prices be carried without diminishing the number of prescriptions written? Probably 75 percent are for patients whose income averages less than \$5 daily. The necessary family maintenance consumes nine-tenths of this, and as a rule there is no reserve in the ordinary family treasury for the payment of doctors' bills. Whenever we get an increase in price, therefore, we also help to bring about a diminished consumption.

4. Why should we not get relatively larger prices on inexpensive medicines that are used in minute doses or with great care? Why is not Fowler's Solution worth as much to the patient over the prescription counter as a proprietary solution? Should we not charge as much for one drachm of ointment of yellow oxide of mercury to be used in the eye, as for one ounce to be used on the skin?

5. How much should be charged, in addition to the regular price, for the extra labor necessary on Harrison Law prescriptions?

6. Too many druggists make a rule of cutting under the indicated N. A. R. D. price on repeat prescriptions.

7. If we are to hold our prescription clerks to the task of scientific pricing for their work, it is up to the management to provide them with the means of determining costs quickly and accurately. This involves the marking of all prescription merchandise, the use of up-to-date price lists, etc.

8. That the subject of prescription pricing needs far more study than has so far been given to it, and that many druggists are losing money without knowing it, are facts easily disclosed by a little consideration. A prescription department capable of dispensing one hundred prescriptions daily requires the services of three clerks and one boy. Scientific work such as preparing salvarsan solutions, manufacturing, making analyses, etc., would call for still more help. Labor for such a department would cost \$14 a day. Rental at 10 percent, which is a minimum figure in a prescription pharmacy, means \$7.50 more. Merchandise will average

\$38.50. One hundred prescriptions would bring in \$75 approximately. Thus we have a profit left of \$15 daily, against which must be charged the cost of administration and such overhead expenses as insurance, taxes, breakage, fuel, light, advertising, telephone, etc., etc. Such a department as is here indicated would find it exceedingly difficult to show a net profit of \$10 daily, even with prescriptions priced at the high average of 75 cents.

THE CHAIRMAN: I feel especially grateful to Mr. Mason for preparing this paper and also to his associates, Messrs. Perry and Schettler. I have papers from Mr. Hugh Craig and Mr. F. W. Nitardy on the same subject. What is your pleasure in regard to these papers? While we are very glad indeed to have anyone here who is interested in pharmacy, but as it is a meeting of the House of Delegates, I will ask only those to discuss the disposal of these papers who are regularly appointed delegates. Shall we have these papers read by title and have all the papers published in the proceedings or not? After you decide this, then I will ask you to discuss the paper, if you please. The paper of Mr. Craig, what shall we do with it?

A DELEGATE: I move it be read by title and passed for publication.

THE CHAIRMAN: "Fundamentals of Prescription Prices." If there is no objection it will take that course. Also the paper of Mr. Nitardy, which has the simple title of "Prescription Prices."

THE FUNDAMENTALS OF PRESCRIPTION PRICING.

BY HUGH CRAIG.

In the pricing of prescriptions more than in any other division of his multipartite vocation, the retail druggist clings persistently to rule-of-thumb methods—and it is a left-hand thumb at that. The reason is not to be discovered through theorizing. The result is either a neglect of the prescription end of his business as unprofitable, or—and this is of equally frequent occurrence—the killing of the auriferous goose through stimulated production in the way of excessive charges.

Many sheets of paper and much of your time might be consumed in laying down concrete factors to constitute a mathematical rule for your guidance, to replace the rule of the left-hand thumb. But I am mindful alike of your patience and of the high cost of paper, and I shall but point out the basal factors to be considered in ascertaining a profitable yet nonrepellent selling price, and let you do the calculating for yourselves when you get home to your scribbling paper.

Cost, profit—that is all there is to know in determining the selling price of any article in any line of mercantile endeavor. In the dispensing of prescriptions, as in any other manufacturing operation, the cost is two-fold: there is the cost of material and the operating cost—and each of these has its several sub-factors. Profit, in the dispensing field, is also to be looked upon as two-fold: mercantile and professional. To figure profit is a simple matter; to ascertain cost is "another thing, yet, Maurice." Let's tackle it.

There is nothing difficult for the pharmacist who is a merchant—and faith, he needs be—in ascertaining the cost of every item, as laid down in his store. The cost of the same article, as passed over his counter, and the cost of articles of store manufacture are more difficult to determine; and their determination is essential to real business method. They are the cost that is two-fold; they embrace that comprehensive item of expense, operating cost. Operating cost is, in turn, two-fold. It embraces that bogeyman of the efficiency expert, that *bete noir* of the rule-of-thumb man, popularly referred to as "Old Man Overhead;" its other factor is time cost.

To ascertain the total of such items as rent, lighting and heating costs, taxes, publicity costs, depreciation, interest, and so on, which constitute overhead, for a given term and to calculate this total as percentage of the gross receipts for that term is not a difficult operation. But the percentage factor thus obtained must not be accepted as common for all divisions of the business. So to accept it is to court bankruptcy in these days of close competition. It is absolutely necessary that the overhead factor for each line be calculated separately; and time cost in any division is not properly a part of overhead; furthermore, it must be based on a separate factor for each employee.

The calculation of the overhead factor for the prescription department differs only in detail from the calculation of the same factor for any other division of the business, or for the whole business. Its difference lies chiefly in allowing sufficient for depreciation, which, obviously, must include breakage. The proportion of lighting and heating costs, rent, interest on investment, taxes, and so on, to be charged against the prescription department is readily ascertained. Naturally the overhead factor is calculated as a percentage of the gross receipts of the department; it should be transposed into the equivalent percentage of delivery or production cost or inventory valuation, so that it may be more readily applied in any particular compounding operation. As this paper deals with prescription pricing, it is not to be expected to go into detail regarding the calculation of the cost of prescription material manufactured in the store. This cost must, of course, embrace the delivery cost of the original components of the manufactured article, the time cost of manufacturing, the overhead factor for the manufacturing department, and the manufacturing profit, which is usually figured at the prevailing rate of interest.

Time cost, the other sub-factor in operating cost, is not difficult to ascertain; but it is frequently miscalculated. Time cost in prescription compounding should be actual. Now, I can anticipate the objection: But where does the compensation for the professional attainments of the pharmacist come in? I am coming to that; it is not a part of the time cost, but a part of the profit, as hereinbefore mentioned. In saying that time cost should be actual, I do not mean that if you pay an employee \$28 a week of seventy hours, which is the equivalent of forty cents an hour, the time cost of a prescription requiring fifteen minutes to compound should be ten cents. It is necessary, in calculating actual time cost in the pharmacy of the usual sort, to add at least fifty percent to the mathematical time cost to cover idle moments and time spent in tasks not directly profitable, such as replenishing stock containers, arranging stock, and so on. Actual time cost is really "time and a half," unless the clerk is continuously employed in prescription work. Time cost in the prescription department will respond readily to a bit of speed-up efficiency.

The cost, that is, the production cost, of a prescription will, therefore, represent the delivery or production cost or the inventory valuation of the ingredients, plus overhead, plus time cost—don't figure overhead on time cost. To ascertain the proper selling price it is necessary to add to the production cost (1) the desired net mercantile profit, which should be common for the whole business; (2) the selling price of the container—don't overdo the making of profit on containers; and (3) the charge for professional service. This last item calls into consideration the nature of the service and the financial ability of the patient. Upon these two factors is based the charge for professional service made by the honorable follower of any profession; they are the only logical bases for such charge. The existing, albeit not now so prevalent, practice of taking advantage of the nature of the need of an unfortunate patient savors too much of the quack and the shyster to be countenanced among honorable pharmacists. One can not always reckon the financial ability of the patient with exactness, but the errors will usually counterbalance. Leave retaliation in prescription charges to the penny-a-line jokesmith. It scarcely needs be explained that by the nature of the service is meant the sort and degree of pharmaceutical ability required in the particular operation. A solution for intravenous use, for instance, is worth more to prepare than a liniment of the same volume.

Let it be understood that it is not necessary to perform all the calculation of time cost and overhead for each compounding operation; average operating costs for various volumes of mixtures, eye lotions, liniments, batches of pills, capsules, powders, or suppositories, and so on, should be calculated. They will be a bit high for some, low for others; but calculate them; don't guess. Professional service in ordinary prescription work may be calculated on the basis of time.

Permit me to digress for a moment to mention briefly two factors that, in actual practice, have a considerable influence upon the pricing of prescriptions: one is the quality of materials; the other, the purpose of the pharmacist (the proprietor of the store). Of quality little need be said; there is but one quality worthy of consideration in the prescription department: the best. But the purpose of the pharmacist is not to be dismissed so readily; it is a most important factor; and it is responsible for not a little of the falling off in the prescription business. The purpose of the pharmacist, with reference to the prescription department, is either a real prescription business or large profits from such prescription work as may come his way; the two are not compatible. Considered with the first purpose, prescription charges will not be such as to drive

patients to dispensing doctors or to self-medication. That such driving is of frequent occurrence cannot be denied; it usually obtains as a result of the second purpose hereinbefore referred to, because such a purpose is usually coupled with a tendency to devote the display facilities of the store to the featuring of ready-to-take medicaments, generally offered at a cut price.

An acquaintance of the writer last spring had an attack of laryngitis. He is not a believer in self-medication, although educated in pharmacy and medicine; neither is he so totally antagonistic to proprietary medicines as to go to a doctor when in need of a simple laxative or an application for sunburn. One of the prescriptions given to this patient on the aforementioned occasion called for one ounce of compound tincture of benzoin, to be used a teaspoonful at a time, as an inhalant, vaporized from boiling water. The patient knew what the prescription called for; the pharmacist to whom he took it for compounding knew that he knew—and charged him thirty-five cents for the medicine. In the main window of that pharmacist's store at that time was displayed a proprietary throat lozenge, offered at the enticing price of two boxes for the price of one plus one cent. Can you, or I, blame that patient for feeling that there is a bit of hold-up in the pricing of prescriptions? If that pharmacist charged thirty-five cents when he knew that the patient knew that the same medicine could be bought at the counter for ten cents, what would he charge a patient ignorant of the nature of the medicine? Doubtless, at least enough to convert a prescription customer into a purchaser of two boxes of a twenty-five-cent lozenge for twenty-six cents. Perhaps that is his purpose.

Verily, the purpose of the pharmacist has a great deal to do with his pricing of prescriptions—and with the volume of his prescription trade, also.

The chairman has asked that I explain the N. A. R. D. prescription-pricing schedule. As it is such a simple scheme, I shall be content with having copies distributed, and with the statement that, as I have had nothing to do with the preparation of this schedule—it antedates my connection with the National Association of Retail Druggists—it does not follow in detail the scheme outlined in this paper, and I, personally, consider it not sufficiently elastic and somewhat overproductive when applied to prescriptions of the everyday sort.

Cost of ingredients, plus overhead expense, plus time cost, plus net profit, plus the price of the container, plus professional remuneration, equals the selling price of the prescription; that's all there is to it. When the six component factors are properly determined, it will be found that there need be no foundation for the popular myths relative to the apothecary's profits, and still prescription work will pay better than one-cent sales—and it will increase.

PRESCRIPTION PRICING.

BY F. W. NITARDY.

In considering the subject of pricing prescriptions let us first consider the prescription itself and see at what point it may be considered salable drug store merchandise. If you should obtain an order from one of your customers for a compound or mixture of a nature that you would not care to prepare yourself but would turn the work over to a pharmaceutical manufacturing house to prepare for you, and assuming that this house charged you \$1.00 for the finished article, how would you arrive at a selling price for this mixture? I assume that this selling price would be arrived at in the same manner that you use in arriving at selling prices for any merchandise in your stock. You know that it costs you a certain amount to do business and that, in order to make a profit, your selling price must be sufficiently above the cost, plus the expense of doing business to leave the net profit desired. Expense of doing business varies according to the kind of a store you are running. If you are running a city store it will probably cost you from 30 to 35 cents to sell a dollar's worth of goods. If you are running a country store, paying a low rent and are getting full prices for everything, it is possible that your cost of doing business will be slightly below 30 cents on the dollar.

Let us take 30 percent on selling price or 50 percent on cost as a liberal average for the purpose of this paper. Going back to the preparation made for you by the pharmaceutical manufacturer, costing you \$1.00, this product should be sold at \$1.66 to yield what is considered the ideal net merchandising profit of 10 percent, the cost of your article representing 60 percent, the cost of doing business 30 percent, and the net profit 10 percent of the selling price.

A prescription does not represent a salable piece of merchandise until compounded and ready to leave your prescription department; it is then the same as any finished product prepared by or bought of any manufacturer or jobber, and the cost of a prescription to the point to where

it is ready to be delivered to the customer should be calculated as its cost on which its retail price should be based. This cost does not include the general merchandise overhead that exists in every store. There is no less trouble or risk connected with the delivery of a finished prescription to your customer than with the selling of a proprietary medicine, a quantity of some crude drug, a household remedy or any other merchandise. Therefore, the same general overhead that applies to your merchandise business in general applies to the finished prescription, when it is ready to leave your prescription department.

With this idea in mind the Colorado Pharmacal Association in the spring of 1915 took steps to investigate the cost of prescriptions and the price received for them by asking the following questions of its members:

Have you ever taken the time to calculate the average cost of prescriptions and the average price received? Can you give us figures giving:

A—Cost of material used in filling 1000 consecutive prescriptions?

B—Estimate number of hours required to fill them?

C—Cost of containers, labels and other incidentals necessary?

D—Estimate of overhead expense, including clerk hire, such as light, rent, heat, telephone, insurance, interests, taxes, etc., on your *Prescription Department* for the period covering the number of days in which you will fill 1000 prescriptions?

E—The price received for the same one thousand prescriptions?

Answers to these questions which were received from ten different sources, showed that the profit on prescriptions was not what it was generally supposed to be.

Feeling that more work along this line should be done, the same questions were asked this year of the members of the Colorado Pharmacal Association. Among the answers received was one by a man who had given very carefully prepared figures in 1915 and who, for the sake of comparison, prepared an answer covering the same period in 1916 as was used last year in compiling his figures with the following results:

1000 consecutive prescriptions.	1915.	1916.
Cost of material.....	165.01	193.13
Cost of labor.....	100.00	100.00
Cost of containers.....	23.36	25.89
Prescription department overhead.....	66.43	66.43
Total.....	354.80	385.45
Price received.....	511.00	530.56
Less cost.....	354.80	385.45
Gross profit.....	156.20	145.11

The figures given above are very close to the average figures that were received and are used in this instance because of their accuracy. They were prepared in a residence district store of Denver, a store which might be considered a representative city drug store.

Now let us consider for a moment what price a prescription should bring. If the sum of the cost of the ingredients, container, overhead expense and time for compounding is considered the cost to the store of the finished prescription, then we must add to this cost that of doing business, that is, the general merchandising overhead which takes care of the expense of the front of the store, deliveries, losses through bad accounts, cost of time of such clerks as wait on the customer in taking in the prescription and handing him the finished article, etc. Further, we must add the fee to which we are entitled as professional men for the service rendered in filling a prescription and such additional amount as to show the percentage of net profit that should accrue from a transaction of this nature.

Now let us see how near in the figures above referred to, the actual price received for prescriptions comes to the price that should have been received. Assuming that your selling price of a prescription consisting of 100 percent should be composed of a net profit of 10 percent, a professional fee of 10 percent, a merchandise overhead of 30 percent and cost of the finished prescription of 50 percent, then a prescription costing 38½ cents when finished by your prescription department should retail for 77 cents, which would be divided as follows:

Cost.....	\$0.385	50 percent
Expense of doing business.....	0.227	30 percent
Service fee.....	0.079	10 percent
Net profit.....	0.079	10 percent
<hr/>		
Total.....	\$0.770	100 percent

This would represent a fair retail price for a prescription costing 38½ cents, and one that could readily be obtained by all pharmacists for the asking. It would stand public investigation and criticism, for on this basis the average prescription would bring 75 to 80 cents, which would mean a combined net profit and professional fee of 15 to 16 cents to which no fair-minded person would object. It is probable that prescriptions involving very expensive materials could not be made to show a profit quite up to the one just mentioned, but it is equally true that there would be other prescriptions involving very cheap materials that could show a little larger profit to offset the former so that the average showing would still remain in harmony with the figures given. That such a profit is reasonable, I think will be acknowledged by everyone, for on this basis you would be running your prescription department as an accommodation department to your store, without any profit for that department as such. You would show a net profit of 10 percent and a professional service fee of 10 percent over and above the actual cost of delivering this service. In the trades a profit of 15 percent and more is charged on any labor furnished aside from a profit charged on materials furnished and I doubt if you can find any professional service rendered as cheap as the one proposed in this instance.

What would it mean to you if you could readjust your charges so as to obtain a price based on these principles? Would you have any objection to charging on this basis, if you were sure your competitors were doing the same? I believe not. How can we bring about a condition then of prescription pricing that will bring the desired results and one that would be comparatively uniform throughout the country?

Before attempting to correct any condition that is wrong, it is quite necessary to diagnose or analyze the condition so that we may know wherein the trouble lies.

Probably the greatest factor in the incorrect pricing of prescriptions at the present time is the misinformation under which a great many druggists are working. Comparatively few have figures available which would give them a fairly accurate idea of the amount of money invested in their prescription department, the amount of overhead this department requires, the cost of ingredients, labor and containers, all of which form a part of the cost of the prescription and without knowing its final cost, they can not intelligently arrive at a selling price fair to themselves and the public. I venture to say that not one druggist in a hundred could answer the questions asked in the investigation conducted by the Colorado Pharmacal Association from information at his command. Not only that, but quite a number believe they can guess at the cost of a prescription, but little do they realize how far from the actual facts they are guessing. The information obtained in the Colorado investigation surprised each individual who took active part as well as the general membership. Mr. Clark, who wrote the paper referred to in the beginning of this paper, was surprised to find that his profit on prescriptions in 1916 was less than in 1915, when he had made a decided effort to obtain, and thought he had obtained, about 10 cents more gross profit per prescription in 1916 than in 1915 on account of the information gained from the first investigation.

Another great factor responsible for the prevailing conditions is the miscalculation of profits on this line of work. It seems that a great many druggists will roughly estimate the cost of ingredients in a prescription and base their selling price on this cost, without taking into consideration the amount of time required to compound the prescription or the overhead expense connected therewith. The time of the person compounding a prescription has a definite value and means a definite cost to the store. The prescription department creates a definite overhead that could be eliminated from the expense of the store if no prescriptions were filled, and these costs form part of the final cost of the prescription. Every druggist knows that he can not buy a show case for what the plate glass, etc., in it costs, or a soda fountain for what the marble, onyx, tin, etc., are worth in the crude state, and it is equally wrong to consider the cost of the ingredients of a prescription as cost of the finished product.

There was a time, no doubt, when prescriptions brought the price they should bring, but

such is not the case to-day. Many druggists are still charging the same price for the average 4-ounce mixture, 2-dozen pills, tablets or powders that they did twenty years ago, notwithstanding the fact that there has been an ever-increasing cost of doing business and many changes in the cost of materials. We pay larger salaries, more rent, have more elaborate equipment, require a larger amount of stock and have more losses to-day than ever before, but we have not made corresponding increases in our retail prices of prescriptions.

There is but one way in which we can correct these conditions, and that is by a thorough educational campaign based on careful investigation of actual conditions. If the pharmacists of the country are shown in a convincing manner where they are losing money daily on account of habits acquired many years ago in the pricing of prescriptions and that it is necessary for them to adopt a business-like system of pricing prescriptions instead of the old-fashioned method of basing the price on the amount or size of the bottle dispensed, they will no doubt be willing to correct their methods.

The argument sometimes put up, that raising the price will drive away business, has been proven false, for all of us have had to charge much more for certain drugs in the last year or two than we have ever before had occasion to charge, and I believe you will all agree that, while there probably was some necessity for explanation at times, the public as a whole stood for the raise in prices with very little complaint, so little in fact that all of us were surprised.

There is no reason why the pharmacist should not make a reasonable profit on his service, and while the public likes to buy as cheaply as possible, it is nevertheless willing to pay a fair price for honest service and it only remains for the pharmacists to charge the fair price. One thing is certain, the public will never come to him and say, "You are not charging enough for your service, here is an extra quarter for that prescription." If you want the extra quarter you will have to ask for it and you will be surprised how easy it will be obtained.

I hope that we shall be able to interest every local, state and national association in this work and that we shall take the lead in actively and thoroughly investigating present conditions. As soon as reliable and representative information is at hand it will be possible to formulate a set of principles on which the pricing of prescriptions should be based. It will not be a simple task. In fact, it is a task too difficult to be solved off-hand or to be solved by any one person but it should have the attention of a representative and capable committee and their report should then be given to the drug trade with the statistics, reasons of its adoption, etc., to form a guide for state and local associations as well as individuals, in their effort to price prescriptions correctly.

Now that these papers are disposed of I would be very glad to have anyone present, whether delegate or not, discuss this paper of Mr. Mason.

H. B. SMITH: I would be very glad to know, Mr. President, if the so-called excessive prices, and what appears to be minimum prices, were confined to any particular section of the country.

H. B. MASON: No, you couldn't work out any geographic theory.

R. P. FISCHER: Mr. Chairman, I am truly glad to have Mr. Mason read the paper and to bring out the points he did, showing that there is much criticism of pharmacists for the charges made for prescriptions. As a matter of fact, I believe according to the Evans' system, which Mr. Mason suggested, the prices would be even less than the estimated prices to which I called attention. I agree with Mr. Mason that there ought to be some systematic way of pricing prescriptions just the same as for anything else in the drug store.

E. G. FINE: Regarding one statement Mr. Mason made use of in his paper on prices. I happened to be present in the Colorado Pharmaceutical Association a little while ago, when a paper was read by one of our leading druggists, Mr. L. W. Clark of Denver. Mr. Clark with a great deal of patience went through one thousand of his prescriptions, and the result of the showing made us all dig back in our old prescriptions and sit up and take notice, with the result that every druggist

in Colorado, at least those who were present at that meeting, were asked to raise the standard of prices of their prescriptions, generally. It is an eye-opener to all of us who thought we were getting good prices for our prescriptions, averaging about fifty-five cents.

THE CHAIRMAN: It was because of that action in Colorado that this subject was brought up in this way; the House of Delegates was asked to take it up. Would the House of Delegates like to endorse Mr. Mason's suggestions? Some one make the motion that we endorse the Evans' rule and thereby give it the endorsement of the House of Delegates of the American Pharmaceutical Association?

OTTO F. CLAUS: Mr. Chairman, I take pleasure in making such a motion.

R. P. FISCHER: I second the motion.

N. P. HANSEN: Some of the larger drug firms have, as I understand it, two scales, one for what they call an ordinary prescription and one for an extraordinary prescription. For instance, take two grains of zinc sulphate and a pint of water. The cost of that would not be five cents; you must have a rule for quantity. Some of the larger firms charge at least ten cents an ounce, for what they call an ordinary prescription, and grade it in that way, and don't grade according to the actual cost. An extraordinary prescription they fill according to the Evans' rule, but an ordinary prescription could not be priced in that way. Two grains of zinc sulphate and a pint of water; you know what it is for and wouldn't want to dispense it for twenty-five cents. Ordinarily you would charge sixty-five or seventy-five cents for it.

H. B. MASON: That point was covered in this report, in "exceptions to that rule," and the point was brought out that there should be a minimum price below which you should not go.

(Motion put before the House and carried.)

THE CHAIRMAN: The House of Delegates will now come to order. I call for a report of the Committee on Credentials.

REPORT OF COMMITTEE ON CREDENTIALS.*

SEPTEMBER 6, 1916.

Your Committee on Credentials respectfully reports that it has carefully examined the lists of delegates given us by Gen. Sec'y Wm. B. Day and finds the following organizations duly represented:

State Associations.....	34
Colleges of Pharmacy.....	34
Local A. Ph. A. Branches.....	9
National and City Organizations.....	7
U. S. Departments.....	6
Alumni Associations.....	5
Total.....	95

Your committee recommends that through the medium of the JOURNAL a notice be given to the various organizations entitled to representation, calling attention to that section of the by-laws, which permits a delegate to represent one organization only.

Signed,

ROBT. S. LEHMAN,
JOSEPH WEINSTEIN,
OTTO F. CLAUS, Chairman.

* The report of the names of these delegates was made by Secretary William B. Day and therefore not repeated.

THE CHAIRMAN: You have heard the report of the Committee which includes a double recommendation. What is your pleasure in this regard?

MR. HANSEN: I move the report be received and Committee discharged.

(This motion was seconded by Mr. Hostmann, put before the House and carried.)

THE CHAIRMAN: We have with us Dr. Alfred R. L. Dohme, who represents the Association of Manufacturers of Medicinal Products, and I am sure we will be glad to hear from Dr. Dohme.

A. R. L. DOHME: Mr. Chairman and gentlemen, I am delighted to have the privilege of being with you at this meeting representing the National Association of Manufacturers of Medicinal Products. As you know, this organization has been in existence only five years and it owes its existence, practically to some suggestions that were made in this parent body, the American Pharmaceutical Association. Although we realized that we had the privileges of the floor here and we exercised those privileges whenever the occasion demanded, at the same time there were conditions arising in our own line of business as the result, principally, of the inception of the Pure Food and Drugs Law, and all that followed after it, that indicated the necessity for our meeting together and having more time for the consideration of the problems that were confronting us, than could be given at a meeting of another association, and for that reason this new association sprung into existence. We have found it to be desirable and helpful, not only to ourselves, but to meet the growing troubles of legislation and regulation, by the government, of our products, and we have come to the conclusion that it has been of a great benefit to members of your association—the retail druggists of the country—because being compelled to watch at the fountain heads of all legislation of the country, whether in the states or at Washington, we have succeeded, in your interest as well as in our own, in preventing the enactment of a great many laws that were either ill-advised because the persons who drew them did not know what they were talking about, or because they had been suggested to a legislator by someone, in his own interest. This person, not knowing what the bearing of this particular law was, did not hesitate to press it and it would have gone through in many cases. We found many of these laws were the result of such ill-advised action on the part of the man who does not know what he is talking about. Others we find are a scheme put up by which an interested party tries to get through a law under a false name or under a false heading or a misleading heading, but which in another part of the law would have a clause that would be very unpleasant for the retail, the manufacturing or wholesale trade.

In addition to this protecting feature which this association has brought about and which, of course, benefits the retailer as much as it does the manufacturer, we stand behind anything that we sell, and in doing so, of course, we stand absolutely behind the retailer. So that any retailer who is handling any of our products and should get into the hands of the law by virtue of the excessive zeal on the part of government agents or state agents, may rest assured that his interests are protected in every way by the action of this association.

I want to congratulate you, Mr. Chairman, and gentlemen of the American Pharmaceutical Association, upon the broad view which your association has always taken in pharmacy. I believe that the time will come when we will be called upon more than we are now, to band together or band our interests together in some common action, whether it be in defense of our rights or in defense of our calling or profession, rather than have the associations split themselves up into smaller units. The tendency in the future should be to increase or centralize more strongly the power and influence and weight of these organizations, and as has been well said by your Chairman on previous occasions, and probably on this occasion, there is no body of pharmacists that better represents all these interests than this particular body, the American Pharmaceutical Association, and I therefore

trust that the principles which were laid down by the founders, away back sixty-four years ago, along these lines may not only be continued, but that the tendency to draw the other organizations more closely to you may grow in the future rather than diminish.

I am also pleased to note that the attendance at this meeting is good, from all the different branches of the trade, and I hope that future meetings will show the realization of the hope that was expressed this morning at one of the meetings, that our membership might increase twofold or threefold, and the suggestion was made at that meeting that this should be done from the pupils of the schools of pharmacy. I would suggest along the line indicated by the Secretary of your association, and also by your Chairman that this can be done from all the organizations, that the wholesale druggists should be induced to become members of this association to a larger extent than they are at present, and that the manufacturers and their individual representatives should become connected with this organization. I think that if you take the pupils in the colleges, take the retailers themselves, take the pharmaceutical chemists, take the manufacturing pharmacists or manufacturing chemists, you have a source for membership which, if you can bring out more prominently than you do now, the importance of banding together for protection in the future, it seems to me that there ought to be no trouble within the next five years of making this membership instead of twenty-five hundred, at least five thousand, if not seventy-five hundred, and I certainly hope that that will be the case. Thank you, Mr. Chairman, for the privilege of addressing you. (Applause.)

THE CHAIRMAN: For the information of the delegates I may state that Dr. Dohme as, representing the National Association of Manufacturers of Medicinal Products, was referred to this House of Delegates instead of being received in general session as he should have been.

I hope you will excuse me for any informality that occurred yesterday. The Secretary has called my attention to the fact that neither his able report, nor my very bad one, were regularly received. Will someone make a motion that these be received?

OTTO F. CLAUS: I make that motion..

(This motion was seconded by N. P. Hansen and carried.)

THE CHAIRMAN: We will have a report from the committee that was appointed yesterday to consider the general welfare of the House of Delegates. We will call upon Dr. Rusby, who has very kindly agreed to present this report.

DR. RUSBY: Mr. Chairman and gentlemen: I was not the chairman of this meeting, but Dr. Hynson, who was the chairman, has asked me to present this report.

REPORT OF COMMITTEE TO STUDY THE PROPOSED CHANGES IN CONSTITUTION OF HOUSE OF DELEGATES.

Your committee met this morning at 8.30 and again this afternoon. We have found so many important considerations involved in the pending resolutions that we are not willing to offer any general recommendations on the subject.

At the same time, we have agreed upon the desirability of certain measures, which we shall recommend.

We heartily endorse the chairman's opinion that the State associations, as such, should have a representation in this Association. Such associations do at present have the right to send delegates to this Association, who have the privileges of the floor, but the delegations, as representing their associations do not have a vote in determining the proceedings. It seems to us very logical and consistent that the state associations, as units, should possess membership in this Association, and should so participate in the proceedings, either through the general sessions, or through those of the House of Delegates.

We see important reasons why this should be done and we see very important benefits of such a plan, both to the state associations and to this body. We believe that there are many thousands of members of the state associations who are not members of this Association, and who for that reason take no interest in our affairs. To make their associations members of this body, with voting powers, would be the first step toward interesting them individually. It seems perfectly feasible to supply to members of state associations which are thus members of this body, the publications of the A. Ph. A., for say, \$3.00 in addition to the \$2.00 paid to their own association. We believe that the receipt of these publications would become the strongest possible incentive leading to their becoming full members. We believe, moreover, that this would go a long way toward bringing about uniformity in regard to legislation, especially affecting the prerequisite law and license laws.

We therefore recommend that the necessary legislation should be enacted to make state pharmaceutical associations members of this House of Delegates, giving to each association represented at our meetings a single vote.

We believe and recommend that the same action should be taken with regard to the associations of the District of Columbia and other territories, and to those of foreign states of the American continent.

We believe that this House of Delegates should meet for the discussion of such business as may be referred to it by the A. Ph. A. and of such other affairs as they desire to discuss, previous to the meetings of this Association, and at the same time and place as the meetings of the A. C. P. F. and the N. A. B. P. in order that its discussions may be deliberate and thorough.

We are inclined to think, though we make no specific recommendation at this time, that the following things should be done:

1. That the local branches should not have voting powers in this House of Delegates and at the same time a representation on the Council. We direct particular attention to the fact that every member of a local branch is a member of this Association, so that these branches are not in the same need of representation as are the state associations.

2. That local associations should not possess voting powers here. It is due the state associations that they should possess a full representation of all local associations and that it is through those state associations that they should have representation here, and not independently.

3. That the same view should be taken of pharmacy schools, all of which, moreover, possess representation in the Section on Education and Legislation.

4. That such national associations as the N. A. R. D., N. A. W. D., N. A. M. P. should not have voting powers, although it would be well for them to have representation, in this Association. Their position is quite different from that of the other bodies already mentioned. First, they are bodies coördinate with ourselves. We are all members of the Drug Conference, where we have an equal footing. This Association has no voting powers with those bodies, and there is no good reason why they should do so in a house of delegates such as ours.

Signed,

H. H. RUSBY, Chairman.

N. P. HANSEN,

L. A. SELTZER,

JEANNOT HOSTMANN,

H. P. HYNSON.

N. P. HANSEN: I move the adoption of the report.

(Motion seconded.)

THE CHAIRMAN: It has been moved that this report be adopted as the sense of the House at this time, and I think that might be followed by the continuance of the committee with instructions to draft such amendments to the By-Laws as will put these suggestions in effect. Does any one want to discuss this report? If not, I will put the question.

(Question put before the House and carried.)

MR. HOSTMANN: Mr. Chairman, I would like to move that, before reading any resolutions, the Chairman appoint a nominating committee to report at the

Friday morning session. It is absolutely necessary that that committee be appointed some time this evening. I therefore move you that the Chair appoint a nominating committee.

(This motion was seconded, put before the House and carried.)

SECRETARY HOSTMANN: Mr. Chairman, to be able to act upon these resolutions properly on Friday morning they either should be read in toto or read by title, and if I may be allowed I will skim over them. One resolution is: "Resolved, that a committee of five be appointed by the chairman of the House of Delegates to consider and report on the functions of the House, said report to be rendered at the session of the House of Delegates in 1917."

Second resolution is: "Resolved, that the House of Delegates recommends the adoption of the following amendment to the By-Laws of the Association, said amendment having been referred to it by the Second General Session of the Association." That amendment was the one I submitted this morning to the general session which reads: "Amend the By-Laws as follows: "There shall be and hereby is created a House of Delegates to have and exercise such functions as may be hereafter specified by the Association."

The reason for that is this: We are fighting away and are spending our time trying to find out what we ought to do, and after we do decide on something, if the Council sees fit, it can pass a resolution cleaning up the House of Delegates. These resolutions we will act on and will go to the Council on Friday morning, and if the Council sees fit to adopt our recommendation, then the House of Delegates will be created in a By-Law and will become a permanent body of the organization. If the Council refuses to adopt our recommendation, we have a chance to present this amendment at the last general session. In that way we will at least accomplish this; we know, positively, that the House of Delegates will be in existence at the next annual session. Otherwise these committees that are going to work all this year, when they come along next year they will find out there is no such thing as the House of Delegates.

There are some resolutions that have been referred to us by the Association. One on the status of the pharmacists in the government service; that is, in the Hygienic Service, and one from the Committee on Weights and Measures, which is very short: "Resolved, that this Association approve the idea of a conference to be held in New York during December and authorize its Committee on Weights and Measures to participate in such a conference.

"Resolved, that the Association express the hope that the National Wholesale Druggists' Association will also appoint a committee to take part in the proposed conference," its object being to adopt the metric system.

Another resolution that has been referred to the House of Delegates has to do with the fund that is being raised for the Procter Memorial, and the last resolution is one that has been sent in from the Wisconsin Association which is of more than passing importance. This comes through General Secretary Day.

Those are the resolutions that we will have to act on on Friday morning, and as there will be no other session we ought to have a good attendance. Just as soon as the House of Delegates adjourns the Secretary is supposed to take these resolutions that have been adopted by the House of Delegates and present them to the Council, which will then be in session, and if we are going to do anything at all we ought to be prompt on Friday morning.

H. H. RUSBY: Mr. Chairman, I would like to know about that last resolution.

MR. HOSTMANN: That should be acted upon Friday morning.

H. H. RUSBY: That being such an important resolution, I would suggest it be read again.

THE CHAIRMAN: I may say that the resolution is on the program which I sent out to each delegate. If anyone is interested they will find it in that paper.

C. M. SNOW: Mr. Chairman, may I suggest that what Professor Hostmann has introduced has been taken care of, I believe, or was taken care of at Denver. I think the House of Delegates exists by virtue of having been endorsed at a general session of the Association. I certainly recall serving on the Committee of Constitution and By-Laws and the work of the House of Delegates was certainly referred to the Council at that time. Otherwise we wouldn't at present be in session.

THE CHAIRMAN: But there is no By-Law of the Association providing for the House of Delegates.

C. M. SNOW: I think you will find it in the minutes of the proceedings.

JEANNOT HOSTMANN: Exactly, Professor Snow, that is the way it was created, and if the Council sees fit, or if anybody introduces a resolution in the Council it can wipe out the House. It was created by resolution and can be wiped out by resolution. It is to be created by By-Law, and if it is created by By-Law the only way it can be discontinued is by an amendment of the By-Laws.

C. M. SNOW: I believe the same motion was introduced last year.

SECRETARY HOSTMANN: I looked into that very carefully, and I had it out with some of the parliamentarians. Mr. England took the same position you did, and when we looked in the By-Laws nothing was said, until you came to the By-Laws of the House of Delegates.

THE CHAIRMAN: I would like to announce as members of the Nomination Committee: Professor H. V. Army, Charles H. Skinner of Vermont, and Professor R. P. Fischelis of Pennsylvania.

THE CHAIRMAN: Mr. Hostmann, will you act as Chairman just for a moment?

(Mr. Hostmann takes the chair.)

H. P. HYNSON: I move that the committee which has made a report this afternoon be continued and that it be requested to bring in such amendment to the By-Laws as will put in action the report which has been adopted, and submit the amendments Friday.

(This motion was seconded by N. P. Hansen.)

CHAIRMAN HOSTMANN: It has been moved and seconded that the very able committee that reported on the House of Delegates be continued and report at the final session on the functions of the House of Delegates.

H. P. HYNSON: I didn't make it functions; bring in a report making such amendments in the Constitution and By-Laws as will put in effect the recommendations made by that committee.

CHAIRMAN HOSTMANN: I think it is practically the same thing, because these recommendations can't be acted on this year. What are these amendments going to do, but define the functions and purpose of the House?

H. P. HYNSON: You have a resolution about functions. That is a very different thing. I want the motion put: That the committee which reported here this afternoon be authorized and requested to bring in such amendments to the By-Laws as will put into effect the recommendations which have been adopted.

(Motion put before the House and carried.)

CHAIRMAN HOSTMANN: Of course you understand, as I said before, that these amendments could not be presented until the next annual meeting.

H. P. HYNSON: They can be presented and acted on at the next annual meeting.

MR. HANSEN: Is it not practical to introduce them a year before so as to look them over and see what they are?

H. P. HYNSON: Mr. Chairman, at this session I move that all of Chapter 2 of the By-Laws of this House of Delegates after the word "From," in line three, be stricken out and the words "State Associations" substituted. I do this simply to get it in form for action if we desire to do so. It will read: "That the membership of the House of Delegates shall consist of three regularly elected or appointed delegates from the several State Associations."

H. H. RUSBY: I would say from each State Association.

H. P. HYNSON: Each State Association. That can be amended on Friday. I make the motion that we may act on it Friday if we see fit. I do not want to push the matter through, but wish to put ourselves in a position to act on this if we so desire.

CHAIRMAN HOSTMANN: Gentlemen, do not get this confused. The last amendment applies to the By-Laws of the House of Delegates, with which the Council has nothing to do. We may act upon that on Friday morning. You have heard the amendment. If there are no objections it will take the usual course and we will take it up on Friday morning.

On motion duly made, seconded and carried, the meeting then adjourned until Friday morning at eleven o'clock.

GOLDEN RULE OF GOVERNMENT

"Everywhere in America are clamant and strident voices, proclaiming the essential elements of patriotism. He who seeks out of them all to select one clear note of love for country may fail. I conceive it to be far more important to examine myself than to cross-examine another. May I make bold to insert in the *Record* some elements of the creed which I have adopted in this period of retrospection and introspection? It does not embrace what I know, but holds part of what I believe.

"I believe that the world, now advancing and now retreating, is nevertheless moving forward to a far-off divine event wherein the tongues of Babel will again be blended in the language of a common brotherhood; and I believe that I can reach the highest ideal of my tradition and my lineage as an American—as a man, as a citizen, and as a public official—when I judge my fellow-men without malice and with clarity, when I worry more about my own motives and conduct and less about the motives and conduct of others. The time I am liable to be wholly wrong is when I know that I am absolutely right. In an individualistic republic, I am the unit of patriotism, and if I keep myself keyed in unison with the music of the Union, my fellow-men will catch the note and fall into time and step."—Vice-President Marshall.

PHARMACEUTICAL FORMULAS

PROPOSED FOR A. PH. A. RECIPE BOOK.

A complete list of these Proposed Formulas since February 1912 was published in an Index in the December 1916 number of the JOURNAL. The Committee will continue its work in monthly instalments in this Department of the JOURNAL. Members of the A. Ph. A. are earnestly requested to send suitable formulas and also criticisms of those published to the Chairman.

Otto Raubenheimer, Brooklyn, N. Y.

No. 447.

NIEMEYER'S DROPS.

Morphine Sulphate.....	1 Gm.
Bitter Almond Water.....	100 mls

No. 448.

UNGUENTUM BELLADONNAE ET HYDRARGYRI.

Ointment of Belladonna and Mercury.

German Hospital, Phila.

Ointment of Belladonna.....	500 Gm.
Mercurial Ointment.....	500 Gm.

No. 449.

UNGUENTUM GALLAE CUM OPIO.

Gall and Opium Ointment.

German Hospital, Phila.

Powdered Opium.....	50 Gm.
Nutgall Ointment.....	950 Gm.

No. 450.

MODIFIED DOBELL'S SOLUTION.

German Hospital, Phila.

Sodium Borate.....	15	Gm.
Sodium Bicarbonate.....	15	Gm.
Sodium Benzoate.....	0.50	Gm.
Sodium Salicylate.....	0.50	Gm.
Eucalyptol.....	0.30	mil
Thymol.....	0.30	Gm.
Menthol.....	0.15	Gm.
Methyl Salicylate.....	0.20	mil
Glycerin.....	125	mls
Alcohol.....	30	mls
Distilled Water, a sufficient quantity.		

To make..... 4000 mls

This preparation is very popular among the physicians of the German Hospital, Phila. The antiseptic phenol has been replaced by others of a more agreeable nature and the alkalinity reduced to one-fourth the strength of the original Dobell's solution; this does away with the necessity of further dilution.

No. 451.

EAU DE BOTOT.

Botot's Dentifrice.

German Hospital, Phila.

Oil of Cinnamon.....	5	mls
Oil of Clove.....	5	mls
Oil of Anise.....	5	mls

Oil of Peppermint.....	10	mls
Oil of Cedar.....	2	mls
Tincture of Vanilla.....	50	mls
Potassium Bitartrate.....	10	Gm.
Cochineal.....	10	Gm.
Alcohol.....	1500	mls
Water.....	500	mls

Dissolve the oils in the alcohol, and the potassium bitartrate in the water, mix the two solutions, then add the cochineal and allow to macerate five days and filter.

No. 452.

ELIXIR VIBURNI CUM HYDRASTIS COMPOSITUM.

German Hospital, Phila.

Viburnum Opulus.....	150	Gm.
Hydrastis.....	100	Gm.
Jamaica Dogwood.....	75	Gm.
Pulsatilla.....	25	Gm.
Comp. Spirit of Orange.....	15	mls
Glycerin.....	150	mls
Sugar.....	150	Gm.
Diluted Alcohol, a sufficient quantity,		

To make..... 1000 mls

Moisten the ground drugs with 200 mls of diluted alcohol, macerate 24 hours, then pack firmly in a percolator, pour on diluted alcohol and allow percolation to proceed until 685 mls of percolate have been obtained; add the glycerin and sugar, agitate until solution has been effected, and lastly add the compound spirit of orange.

No. 453.

HARDENING BATH.

Formaldehyde Solution.....	10	mls
Water.....	100	mls
Soak plates or prints for about 10 minutes and wash.		

No. 454.

STARCH PASTE.

Starch.....	60	Gm.
Powdered Alum.....	3	Gm.
Liquefied Phenol.....	12	drops
Water.....	600	mls

Mix the starch with 60 mls of water, and stir into 540 mls of boiling water, in which the powdered alum and the phenol are dissolved.

Contributed by the Chairman:

DAKIN'S OR DAKIN-CARREL SOLUTION.

CARREL'S OR CARREL-DAKIN SOLUTION.

This solution has again proven, that there is nothing new under the sun. *Nihil novi sub sole!* It is well known that remedies become obsolete, and that in time these forgotten remedies are again resurrected. For this reason the following motto taken from Horace was placed on the front page of the Dispensary of Valerius Cordus:

"Multa Renascentur, quae jam Cecidere;
Cadentque, quae nunc sunt in Honore!"

"Many things shall be brought to life, which have fallen;
And many things, which are now in honor, shall fall!"

Chlorine was discovered in 1774 by the Swedish apothecary, Carl Wilhelm Scheele, who named it "dephlogisticated marine acid," because he considered it muriatic acid, deprived of phlogiston. Berthollet in 1785 named it "oxy-muriatic acid." Sir Humphrey Davy was the first to express the distinct opinion, that this gas was an element, and he named it "chlorine" in 1811. Berthollet discovered its bleaching action in 1788, and in 1789 the bleaching liquid solution of chlorinated potassa or Eau de Javelle, was first prepared in Javelle near Paris. Bleaching powder or chlorinated lime was manufactured in 1799 by Tennant in Glasgow and on account of its solid state came into extensive use. The French apothecary, Antoine Germain Labarraque in 1822 prepared a bleaching liquid by saturating a cold aqueous solution of sodium carbonate with chlorine, which received the name Eau de Labarraque. The Payen process by the double decomposition of chlorinated lime and sal soda, was introduced into the French Codex in 1837 and has been in use ever since.

Dr. Ignaz Philipp Semmelweis, obstetrician in the First Clinic of the Vienna Maternity Hospital, introduced in 1847 the disinfection and sterilization of the hands by means of a solution of chlorinated lime. This was the introduction of antiseptics into obstetrics, and immediately the dreaded plague, puerperal fever, disappeared.

It is therefore rather strange that in 1915 chlorinated lime or chlorinated soda was again resurrected as a convenient antiseptic solution for use in the hospitals in the present war.

Dr. Alexis Carrel is in charge of the Rockefeller Institute at Compiègne, France, where the antiseptic solutions mentioned in the title are being used as wet dressings for wounds. Dr. H. D. Dakin, formerly director of Herter Laboratories of N. Y. City, but now bacteriologist at Compiègne, presented in August 1915, a paper on Antiseptics before the Académie des Sciences at Paris. He advocated the use of a diluted Labarraque Solution, neutralized with Boric Acid, and made the claim that a *neutral* hypochlorite solution was less irritating than an acid or alkaline solution.

The original formula produced a solution which decomposed very quickly and thus gave unsatisfactory results as an antiseptic fluid. For this reason the boric acid was omitted and the addition of sodium bicarbonate was made. The finished solution is ready for surgical use and should be preserved in well stoppered bottles in a cool place, protected from the light. It is practically isotonic with the blood serum. It contains from 0.45 to 0.5 percent of sodium hypochlorite with small amounts of neutral sodium salts.

Test: If 0.2 Gm. phenolphthalein are sprinkled upon 20 mls of this solution and same is shaken with a rotary motion, the liquid should remain colorless.

Assay: To 10 mls of the solution add 2 mls of acetic acid and a solution of 2 Gm. of potassium iodide in 10 mls of distilled water. Then titrate with tenth-normal sodium thiosulphate. The number of mls used multiplied by 0.03725 equals the percentage of sodium hypochlorite in the solution.

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No. 455.

DAKIN'S SOLUTION.

Original.

Boric Acid.....	40 Gm.
Chlorinated Lime.....	200 Gm.
Sodium Carbonate, dried.....	140 Gm.
Water.....	10000 mls

Dissolve the soda in the water and then mix in the chlorinated lime. Allow to stand for about one hour and syphon off the clear liquid, in which the boric acid is then dissolved.

No. 456.

DAKIN'S SOLUTION.

Glover.

Wm. H. Glover, Lawrence, Mass., prepares this solution by using the *modus operandi* (but not the quantities) of *Liquor Sodae Chlorinatae* U. S. P. He then titrates an aliquot volume with a solution of boric acid until neutral, using phenolphthalein T. S. as indicator. From this he calculates the volume of boric acid solution necessary for neutralization.

Inasmuch as boric acid decomposes the hypochlorite upon keeping, it is advisable to add same when called for.

No. 457.

CARREL'S SOLUTION.

Extemporaneous.

Solution Chlorinated Soda.....	200 mls
Water.....	800 mls
Boric Acid.....	4 Gm.

Dissolve boric acid in water and mix with chlorinated solution.

No. 458.

DAKIN-CARREL SOLUTION.

Daufresne.

Chlorinated Lime.....	200 Gm.
Sodium Carbonate, dried.....	100 Gm.
Sodium Bicarbonate.....	80 Gm.
Water.....	10000 mls

Mix the chlorinated lime with 5 liters of water in a 12-liter flask and set aside over night. Dissolve the 2 sodium salts in 5 liters of cold water, add this solution to chlorinated lime mixture, agitate well and set aside. When the calcium carbonate has precipitated, syphon off the clear liquid and filter. Preserve in well-stoppered bottles, protected from the light.

Note: No heat must be used!

No. 459.

DAKIN'S OR CARREL'S SOLUTION.

Extemporaneous.

This subject is at present under investigation by the Post-graduate students of the Department of Pharmacy of the College of Jersey City, and the results will be published in due time.

What the pharmacist wants is an extemporaneous method of quickly preparing this solution when called for, and the following formula is proposed:

Solution of Chlorinated Soda, U. S. P.	200 mls
Water.....	800 mls

Labarraque's Solution, U. S. P. IX contains 2.5 percent of available Chlorine. Consequently this diluted solution contains 0.5 percent, which is the strength of the original Dakin's Solution. This "extemporaneous" Solution is slightly more alkaline, which, however, does not seem to be a disadvantage.

Contributed by S. M. Fass, New York City:

No. 460.

UNG. PERUVIANI COMPOSITUM.

Balsam Peru.....	
Oil of Cade.....	
Ichthyol, of each.....	15 Gm.
Crocin.....	8 Gm.
Zinc Ointment, a sufficient quantity,	

To make..... 500 Gm.

An excellent all-round healing and drawing salve.

No. 461.

IMPROVED CORN COLLODION.

Salicylic Acid.....	20 Gm.
Lactic Acid.....	4 mls
Extract of Cannabis.....	1.3 Gm.
Acetone.....	8 mls
Flexible Collodion, a sufficient quantity,	

To make..... 120 mls

No. 462.

DIARRHOEA MIXTURE.

Resorcin.....	8 Gm.
Bismuth Subnitrate.....	
Bismuth Subgallate, of each.....	20 Gm.
Comp. Tinct. Cardamon.....	125 mls
Essence of Pepsin.....	250 mls
Cinnamon Water, a sufficient quantity,	

To make..... 500 mls

No. 463.

NEURALGIA APPLICATION.

Menthol.....	20 Gm.
Chloroform.....	
Tinct. Myrrh, of each.....	30 mils
Alcohol, a sufficient quantity,	_____
To make.....	120 mils

Contributed by the Chairman:

No. 464.

EMULSUM OLEI LINI, THOMSON.

Thomson's Emulsion of Linseed Oil.

Thomson's Emulsion.

This emulsion has been employed since 1875 by Dr. William H. Thomson, Professor of Theory and Practice of Medicine in the Medical Department of New York University. He brought this remedy to the attention of the profession in a paper read before the New England Medical Society in December, 1888, and published in the New England Medical Monthly, March 15, 1889, and other medical journals.

Dr. Thomson's name has frequently been corrupted into "Thompson" and one of the principal ingredients in his original prescription, namely, Mucilage of Chondrus, has been replaced, to a distinct disadvantage, by Acacia.

The following is the original formula converted into the approximate metric system:

Linseed Oil.....	300 mils
Glycerin.....	15 mils
Syrup.....	200 mils
Diluted Hydrocyanic Acid.....	
Oil of Cinnamon.....	
Methyl Salicylate, of each.....	5 mils
Mucilage of Chondrus, a sufficient quantity,	_____

To make..... 1000 mils

Prepare 500 mils of mucilage of chondrus according to N. F. from 15 Gm. of Irish moss, and use this to emulsify the linseed oil. Then add syrup and other ingredients.

Contributed by William Gray, Presbyterian Hospital, Chicago:

No. 465.

MOLLINUM.

Unna's Salve-Soap.

Lard.....	400 Gm.
Potassium Hydroxide.....	56 Gm.
Alcohol, 90 percent.....	40 Gm.
Water.....	400 Gm.
Glycerin.....	150 Gm.

Prepare a soap from the first 4 ingredients by means of heat. Allow to stand 12 hours at 50 to 60° C. and add the glycerin.

Note: A white soap containing about 12 percent excess of fat, used as a basis for ointments for rapid absorption. It is readily washed off with water with which it forms a lather, it leaves the skin fresh and supple and makes no grease spots on linen.

No. 466.

COAL-TAR HAIR TONIC.

Resorcinol.....	8 Gm.
Coal-Tar Solution, N. F.....	8 mils
Diluted Alcohol.....	240 mils

Mix well and filter.

No. 467.

VARNISH REMOVER.

Benzol.....	2 vol.
Acetone.....	1 vol.

No. 468.

ORTHOFORM OINTMENT.

Orthoform.....	10 Gm.
Petrolatum.....	90 Gm.

Note: Acts as a local anesthetic, relieving pain in hemorrhoids, etc.

No. 469.

ORTHOFORM SUPPOSITORIES.

Orthoform.....	4 Gm.
Cacao Butter.....	20 Gm.

Divide into 10 Suppositories.

Note: Acts as a local anesthetic.

No. 470.

BISMUTH CREAM.

Bismuth Subnitrate.....	4 Gm.
Zinc Oxide.....	8 Gm.
Olive Oil.....	120 mils
Lime Water, a sufficient quantity,	_____

To make..... 240 mils

Note: Very soothing in sunburn and erythema.

No. 471.

LOTIO CALCIS.

Calcis Lotion.

Zinc Oxide.....	15 Gm.
Starch.....	15 Gm.
Lime Water.....	120 mils
Rose water, a sufficient quantity,	_____

To make..... 240 mils

Note: This lotion gives good results in poison ivy treatment.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

BALTIMORE.

The February meeting of the Baltimore Branch of the American Pharmaceutical Association was held on February 24, 1917, at Harris Hall, in the University of Maryland, with the Vice-President, Dr. Frontis Lentz, presiding.

Omitting the reading of the minutes of the January meeting, the Secretary read a letter from Dr. H. A. B. Dunning, declining to serve as President of the Branch. Regrets were expressed and Mr. Robert S. McKinney was nominated and unanimously elected to the chair.

Dr. Clifford O. Miller, of the State Board of Health, gave an interesting and instructive talk on the "Determination of Alcoholic Percentages of Pharmaceutical Preparations," amplifying his lecture with practical demonstrations.

He made a general statement concerning the determination of alcohol by the evaporation method, but pointed out that this method does not give altogether satisfactory results where the evaporation of the alcohol causes the separation of substances which do not dissolve in the added water. He showed the general types of distilling apparatus in use, such as the goose neck, the Kjeldahl distilling bulb, and the Hempel column. He then demonstrated a column he had devised, stating that this column is extremely useful where very small quantities of alcohol are present and where concentration of the alcohol in the distillate means a more accurate determination of the alcoholic percentage.

In this apparatus a thermometer is used to record the temperature of the vapor, and this serves to show the character of the distillate as well as the completion of the distillation, the temperature dropping to approximately 30° C. when the vapor no longer contains alcohol.

A pycnometer fitted with a thermometer is used to obtain the specific gravity of the dis-

tillate, 25° C. being found a more convenient temperature at which to work than 15.56° C., as given in the U. S. P. IX.

Dr. Miller explained the use of the immersion refractometer in the accurate and rapid determination of the percentage of alcohol in the distillate, as well as the detection of any methyl alcohol which may be present. If the reading of the refractometer indicates a percentage of alcohol agreeing with that obtained from the specific gravity, it may be assumed that no methyl alcohol is present. If, however, there is an appreciable amount of methyl alcohol present, the low refractometer reading will indicate the fact at once.

After giving the general method of alcoholic determination, Dr. Miller gave methods for overcoming some difficulties likely to arise. A carbonated liquid may be freed from carbon dioxide before distillation by pouring from one vessel to another. The foaming of new wines may be overcome by the addition of tannic acid or paraffin, the paraffin being more satisfactory as it forms a layer over the liquid and almost entirely prevents foaming.

The humping which often occurs in distillation can be overcome by adding a few pieces of pumice which have been heated to red heat, plunged in distilled water, and left under water until used. Pieces of broken glass or glass beads, or capillary tubes closed at one end also serve very well.

In cases where the preparation contains fats, volatile oils, soap, volatile bases or acid, or other volatile substances such as ether, iodine, etc., these are eliminated before the distillation is carried out.

In those preparations containing volatile acids, the acids are best fixed by adding sodium carbonate to the distilling flask. Those containing ammonia are best fixed with phosphoric acid.

Preparations containing free iodine are first freed from iodine by decolorizing with zinc and adding a few mls of sodium hydroxide

solution. The iodine may be eliminated by means of sodium thiosulphate, but in this case sodium hydroxide solution must also be added to prevent the sulphur from distilling over with the alcohol.

If volatile alkaloids are present, these may be fixed with tannin.

Volatile oils, camphor, oils, fats, and soaps are removed by adding saturated salt solution and shaking out with petroleum ether. The petroleum ether extract is washed with saturated salt solution and the washings are added to the distilling flask. In soaps containing ammonia acidified salt solution is added, the acid being used to fix the ammonia. Alcohol-ether mixtures are miscible with either water or petroleum ether alone, but with the simultaneous addition of both, the alcohol mixes completely with the water and the ether with the petroleum ether. Spirit of ether, for instance, is mixed with an equal volume of saturated salt solution and shaken out with petroleum ether.

Preparations containing glycerin present no difficulties when estimating the percentage of alcohol in the column devised by Dr. Miller, as no glycerin is carried over even when present to the extent of more than 10 per cent.

After a general discussion of the matter presented, a rising vote of thanks was tendered Dr. Miller.

Dr. Charles C. Neal gave a history of the determination of alcoholic percentages. He referred back to the period immediately following the passage of the Pure Food and Drug Law when the average percentage of alcohol was estimated and stated on the labels, and made comparisons with the more definite and accurate processes used at the present time, this improvement being due to the important data gathered since that time.

He pointed out that the variation in the alcoholic percentages of fluidextracts is due to the varying amount of moisture present in the crude drug and the varying amount of extractive present in different lots of the same drug. The time at which the alcoholic determination is made is also a factor, since soon after manufacture there is a deposit of inert matter, which should be allowed to settle before the determination is made.

In the manufacture of elixirs allowance should be made for the shrinkage in volume when alcohol is added to the aqueous portion, and care should be taken to see that such

preparations are thoroughly mixed before an alcoholic determination is made.

B. OLIVE COLE,
Secretary.

CHICAGO.

The regular meeting of the Chicago Branch, A. Ph. A., was called to order at 8 o'clock in the evening of January 25th, at Kuntz-Remmlers, by President Hugh Craig.

The reports of officers and committee chairmen were received and the annual election of officers ensued with the following unanimously elected: *President*, Hugh Craig; *First Vice-President*, A. H. Clark; *Second Vice-President*, John F. Fischnar; *Third Vice-President*, Wm. Gray; *Council Member*, Clyde M. Snow; *Secretary-Treasurer*, E. N. Gathercoal; *Membership*, C. C. Orr; *Legislation*, James H. Wells; *Practice*, I. A. Becker; *Medical Relations*, Dr. B. Fantus; *Publicity*, Thos. H. Potts.

The subject for the evening's discussion was the proposed Health Insurance Bill. Unfortunately, Dr. J. H. Beal could not be with us, but Mr. Craig read several passages from the published copy of the bill and opened the subject for general discussion in which Dr. Hess, Dr. Fantus, Dr. Burdick, Mr. Craig, Prof. Snow, Prof. Clark, Prof. Day, Mr. Gathercoal, Mr. Potts, and others took part.

The Branch duly adopted a motion that the chair appoint a committee to consider this matter of Compulsory Health Insurance to report at a later meeting. The chair appointed on this committee, Dr. J. H. Beal, *chairman*; Dr. Bernard Fantus and Mr. J. H. Wells.

Mr. B. L. Eicher then read a paper on Chlorozone, Dr. Dakin's new antiseptic. This was adopted for publication after discussion by various persons present.

The question of some action by the Branch on the A. Ph. A. Year Book proposition was made by the Secretary, but upon statement by Prof. Day that the results of the general vote on the Year Book questions would soon be announced, further discussion was reserved until a later date.

E. N. GATHERCOAL,
Secretary.

NASHVILLE.

The February meeting of the Nashville Branch of the American Pharmaceutical Association was held in joint session with the

Nashville Drug Club, February 15, 1917, D. J. Kuhn, presiding.

The minutes of the last meeting were read and approved. Assistant Attorney-General George M. Thomas spoke on the Tennessee prohibition laws and in his address gave a brief résumé of prohibition legislation, beginning with the enactment of the Four-Mile Law in 1835, which made it unlawful to sell liquor within four miles of a school house. He then spoke of the Holliday Act, passed in 1909, whereby the same restrictions became effective in the entire state and the possession of a United States liquor dealer's license was made *prima facie* evidence of guilt; the Soft Drink law which prohibits the sale of beverages containing over one-half of one percent of alcohol, passed in 1913. Druggists are permitted to fill written prescriptions of a physician who has personally visited the patient at his home. The law passed this year by the Tennessee legislature known as the Bone Dry Bill, makes it unlawful to ship liquors into the state and from one section to another, but exempts druggists from its provisions. Mr. Thomas explained in detail the rights of druggists in handling alcohol, wine, etc.

State Pure Food Inspector Harry Eskew discussed an amendment, now pending, to the Tennessee Narcotic Law, whereby it becomes the duty of county health officers to write all prescriptions for habitues.

A resolution was adopted opposing the passage of bills before the legislature which seek to eliminate the payment of the annual fee for registration of pharmacists and assistants; that which allows persons having ten years' experience in a drug store to become registered in certain counties without examination, and the compelling of dispensing poisons in triangular shaped bottles.

D. S. Sanders called the attention of the meeting to the expiration of the patent to manufacture aspirin, on February 27, 1917. The meeting was well attended and a number of members of the Tennessee legislature were present.

WILLIAM R. WHITE,
Secretary.

SAN FRANCISCO.

The regular monthly meeting of the San Francisco Branch of the American Pharmaceutical Association was held on February 8, 1917. President Lengfeld presided. A communication from the New York Branch,

relative to the "Disposition of the Year Book," was received and placed on file. The chairman of the Committee on Drug Market reported that the country is threatened with a shortage of opium and opium derivatives. Advances in prices of many drugs were listed.

Comments on the preparations of the National Formulary resulted in an interesting discussion of the following: Compound Syrup of White Pine, Tincture of Cudbear, Solution of Aluminum Acetate and Antiseptic Solution.

In the formula for syrup of white pine the addition of cudbear was deemed unnecessary. In antiseptic solution the excessive amount of eucalyptol was criticized and also the use of both oil of thyme and thymol. A decided change in the menstruum of tincture of cudbear was noted and some members thought the former menstruum preferable. The solution of aluminum acetate could have been made permanently clear by filtering the solution separately, then mixing and refiltering. The present process, though an improvement on the former one, does not seem to produce a permanently clear liquid.

These informal discussions seem to be more interesting to the members than prepared papers and it was decided to continue them at the March meeting.

CLARISSA M. ROEHR,
Secretary.

CITY OF WASHINGTON.

The January meeting of the Branch was called to order at 8.15 at the National College of Pharmacy, Dr. W. W. Stockberger, presiding.

The minutes of the December meeting were read and approved.

The Secretary read the following communication from the New York Branch, which embodied a resolution adopted by the Philadelphia Branch and which had also been sent to us:

New York Branch
of the
American Pharmaceutical Association.

Jan. 13, 1917.

DEAR SIR:

At the January meeting of the New York Branch of the A. Ph. A., the following communication was read by the Secretary:

DEAR SIR:

At the last meeting of the Philadelphia Branch, during a discussion on the question,

"What Disposition Shall be Made of the Year Book?" the following points were emphasized:

1. The A. Ph. A. gives each member more than his dues will pay for, hence each year there is a deficit. This must be met with an increase in revenue or a decrease in expenditures. The former can be brought about only by an increase of dues; the latter more feasibly either by discontinuing the Year Book or publishing it in the JOURNAL from time to time.

2. The continuance of the Year Book is absolutely necessary for the progress of American Pharmacy, for it is only by the use of this and allied works that any progress is made. Were it not for this systematized and carefully indexed account of what has been done, information which can now be obtained in a few moments would only be available after an extended time- and patience-consuming search through many journals.

In accordance with this view, the following resolution was proposed and adopted:

RESOLVED, That the Philadelphia Branch go on record as favoring the continuance of the JOURNAL and the Year Book as at present, and that any deficit which might occur be met by an increase in dues; and further, that the Secretary be instructed to send copies of this resolution to the Council and to the Secretaries of the various local branches.

(Signed)

J. ED. BREWER,

Secretary.

After considerable discussion, it was decided not to take hasty action upon such an important matter.

The following resolution was then adopted:

BE IT RESOLVED, By the New York Branch that in view of the vital importance to the A. Ph. A. of the step proposed in the resolution adopted by the Philadelphia Branch, and furthermore, in so far as nothing is known by the members, regarding the result of the recently held referendum, that a committee of three be appointed by the chairman of the Branch to thoroughly investigate the question of the continuation of the Year Book and JOURNAL and an increase in annual dues, said committee to report at a future meeting of the New York Branch.

BE IT FURTHER RESOLVED, That the Secretary send a copy of this resolution to the Secretary of each local Branch.

(Signed)

H. H. SCHAEFER,

Secretary.

Mr. Hilton stated that this whole question was being made the subject of a referendum

vote and as no report had yet appeared, he moved that no action be taken until the New York Branch had investigated and reported. Passed.

A communication from Miss Cowper was referred to the Secretary for reply.

Mr. Flemer offered a motion to be acted upon at the next meeting, combining the offices of Secretary and Treasurer. Passed.

Dr. Stockberger called for any items of interest to members. Mr. Sievers of the Bureau of Plant Industry, thereupon, reviewed a recent bulletin on "Belladonna Growing," written by Prof. Schneider of the University of California. He showed that the writer exhibited great unfamiliarity with much of the published work on this subject, as he claimed that only one crop of the drug could be gathered in the East when the experience of the Department had shown the possibility of harvesting four crops. He showed that while Prof. Schneider claimed that 0.67 percent alkaloids was a high content, the Department had grown plants showing over 1 percent. He showed that Prof. Schneider's advocacy of seed selection from high potency plants had been discussed by the Department for several years and that during that period seeds of high pedigree plants had been distributed.

The general topic of the evening, "Historical Pharmacy Collections," was opened by Dr. Stockberger, who described the efforts made by Southern investigators to delve into the history of pharmacy in that section, and of the discovery in South Carolina of a collection of old prescriptions written during the Civil War, which vividly portrayed the conditions obtaining during those years.

Mr. F. L. Lewton, Curator of Medicine, Smithsonian Institution, U. S. National Museum, delivered an interesting address on the work being done to develop an historical collection at the Museum. This address will be published in full in the JOURNAL.

Mr. N. R. Mueller, of the Bureau of Plant Industry, spoke of the historical pharmacy collections at the University of Wisconsin. He mentioned some of the old-fashioned medicines on exhibition and the manufacturing devices showing the development of pharmacy.

Dr. Arno Viehover, Bureau of Chemistry, opened the discussion offering many practical suggestions relative to the arrangement and labeling of specimens. He believed that much attention should be paid to a consideration

of how drugs are cultivated, collected, cured and distributed. He also thought that the manufacturing side should be largely exhibited and that this should embrace the products from natural drugs and synthetic products. He suggested the importance of an exhibit of all of the official drugs and the desirability of showing the portraits of those who have made the profession.

Dr. F. B. Power spoke of the Wellcome Historical Medical Museum in London, which includes the old Liebig laboratory and the oldest pharmacy in London, both intact. He described his own experiences with Parrish in Philadelphia 45 years ago and said that he had coated pills with gold and silver with the identical apparatus now on exhibition at the University of Wisconsin. He also alluded

to the Tschirch collection at Berne and the Germania collection at Nuremberg.

Mr. Flemer said that the Historic Section of the Association was custodian of a collection which had no repository and thought that our Branch might suggest the placing of this collection in the U. S. National Museum.

Mr. Kalusowski and Mr. Hilton also spoke of this collection and the desirability of having it on exhibition as a loan collection at least and Mr. Flemer moved that a committee, to include Messrs. Hilton and Lewton, be appointed to induce the parent association to place exhibits in the U. S. National Museum and to report from time to time on the progress of its work. Passed.

H. C. FULLER,
Secretary.

LETTER TO THE EDITOR.

CHICAGO, ILL., February 18, 1917.

Editor of A. PH. A. JOURNAL:

DEAR EBERLE:

Stewart and England have tackled the Patent Law from the scientific and technical trenches. Allow me to say a word about the semi-political-commercial end. In 1889, on my return from Germany, I learned that I could not sell, give away, or even swallow antipyrin, that a friend in Germany had given me for seasickness without coughing up a royalty to the lessee of the patent. I looked into the whyness and have been hollering about "Change the Patent Law Monstrosities" ever since.

Long before this topic had been discussed by anybody I got my facts and figures and in 1893 I read a paper on "Change the Patent Law," before the A. Ph. A. After reading it, my friend, George Seabury said, when I sat down by his side: "Willy, Willy, you are O. K., but the 'interests' are against you."

When the N. A. R. D. was started in 1898, I took this slogan to the N. A. R. D., found attention, listeners, and was requested to ask Jim Mann to father the new patent law, which he did. One of the biggest manufacturing concerns had helped me in 1888-93 to get these facts, helped me enthusiastically, because they could make certain chemicals if it were not for the patent law. At that time the patent law protection was leased out to some concern which exploited the trade to the best of the limit. Later this concern took out some valuable patents itself and got cold feet about changing the law.

A little later on, a Chicago jobber defended a suit against a patent lessee, had him licked to a frazzle, but the lessee took out an appeal. The A. Ph. A. was approached to help defend the *lost case*, but declined. Meantime the lessee made an offer, paid the defendant all his expenses and "then some" and the case was dropped.

The Mann Law dragged along, not the white slave, but the Patent Law, and was dropped. Jim Mann told me not long ago that he could have passed that law but the druggists would not let him. Draw your own conclusions! But George was right; the interests were against me. As long as this world stands, passion and interests have been and will be the molders of destinies. Even some of our leading editors helped me when I started to fight the monstrous law, but saw fit to change front since and are silent in seven and a half languages now.

Needless to say, much as I abhor the facts, I am strictly for living up to the law as it is, but also strong for changing the thing. It is not a stimulant but a stone wall against scientific research work—let the process be protected, but encourage scientific research by allowing chemists to work new processes. But—Stewart and England look after the scientific end—I wanted to call attention to the quasi political chicanery behind the scenes, and that to my mind is as rotten as the law itself, and I am for boiling down letters in order to insure attention. The war scarcity of chemicals has thrown a brilliant searchlight on the dire need of changing our laws.

W. BODEMANN.

COMMITTEE REPORTS

REPORT OF COMMITTEE ON QUALITY OF MEDICINAL PRODUCTS.

September 1916*

The chief feature of the drug market for the past year has been the conditions resulting from the scarcity of drugs and chemicals of all sorts. Importations have been checked partly through the curtailment of foreign production and partly through the difficulties of transportation. In addition to this the foreign consumption has been increased so that the balance for supplying to us was decreased. To this scarcity of foreign drugs has been added a scarcity of domestic products, owing to an increased demand for export.

The conditions referred to as resulting from this scarcity affect both prices and qualities. The prices of all drugs have increased, in most cases phenomenally and in many cases to figures that would heretofore have been considered impossible. The following are some of the present, as compared with ordinary wholesale prices, and the list might be largely extended:

	1913.	1916.		1913.	1916.
Acid Benzoic (Toluol).....	\$0.30	\$ 7.50	Acetphenetidin.....	\$ 0.90	\$ 25.00
Aconite Root.....	0.20	0.50	Balsam of Peru.....	1.85	4.00
Bay Leaves.....	0.12	1.00	Belladonna Leaves.....	0.45	1.85
Belladonna Root.....	0.20	2.00	Buckthorn Bark.....	0.14	1.00
Bryony.....	0.15	1.20	Bleached Calamus.....	0.28	2.00
Cannabis.....	1.80	2.75	Colchicum Root.....	0.20	1.30
Doggrass.....	0.16	1.40	Digitalis.....	0.25	0.90
Gentian.....	0.06	0.28	Henbane.....	0.24	1.25
Licorice Root.....	0.06	0.25	Methylene Blue.....	1.25	13.00
Musk Root.....	0.08	3.00	Oil Bitter Almond.....	5.20	12.00
Oil Amber Rect.....	0.20	1.75	Oil Caraway.....	1.50	2.50
Oil Castor, gal.....	0.90	2.50	Oil Cinnamon.....	12.00	18.00
Oil Coriander.....	9.60	35.00	Oil Cod Liver, Norwegian,		
Oil Fennel.....	1.85	4.00	bbl.....	25.00	150.00
Phenolphthalein.....	1.25	20.00	Oil Juniper Berries.....	1.00	7.50
Potassium Bicarbonate.....	0.10	1.25	Potassium Bromide.....	0.35	4.00
Potassium Carbonate.....	0.08	0.85	Potassium Binoxalate....	0.12	1.25
Quinine Sulphate.....	0.26	0.75	Pulsatilla.....	0.12	4.00
Resorcin.....	1.10	18.50	Rhatany Root.....	0.12	0.75
Safflower.....	0.30	1.80	Saccharin.....	1.05	16.00
Senna.....	0.08	0.30	Sage.....	0.10	0.50
Styrax.....	0.30	1.25	Sloe Berries.....	0.14	0.60
Thymol.....	2.40	11.00	Tragacanth.....	0.90	2.85
Valerian.....	0.25	0.65	Venice Turpentine.....	0.30	3.00

Speculative manipulation has had some part in this process of advancement of prices, but in the main it has been a legitimate result of the law of supply and demand. In so far as pharmacists and dealers have had the drugs to supply, this result has accrued to their benefit, and the loss has fallen wholly on the ultimate consumer. In a great many cases, dealers have not been able to reap this advantage, because they have not had the goods, or have not had them in sufficient quantity. Conservative dealers would far rather supply their products in normal quantity at ordinary profits than to supply fractional quantities at fanciful percentages of gain. Deducting running expenses from profit on the restricted sales, even at these high figures, the net proceeds are not always satisfactory. The profits of the pharmacist are not proportionate with those of

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916. Dr. H. H. Rusby stated that a portion of the preliminary part of this report had been taken from that of a like committee of the New York State Pharmaceutical Association, and the Committee desired that due credit be given.

the dealers who supply him. In many cases he pays ten times as much for the ingredients of a prescription, but it is impossible for him to multiply his profit on the prescription to correspond. Thus the general tendency with the pharmacist, except as relates to the stock that he had on hand, has been to require larger capital, with a reduced percentage of profit. The chief danger is, however, to be expected when prices begin to retrace their steps downward. Here is where good business sense is to be most manifested. It is obvious that each purchase, however small, sold at a price decline means a loss, to some extent. It follows that every bit of skill that the pharmacist possesses should be devoted to restricting such losses as far as possible, and this means buying in the most cautious manner and in the smallest possible amounts. Even then, every pharmacist is certain to lose money when the decline commences, but he can save himself from serious loss—possibly disaster.

The effects on the quality of drugs have been wholly that of deterioration. No argument is needed to prove that in times of scarcity, lower grades get into use than those which are customary; nevertheless, it will be profitable to indicate some of the influences which lead to this result.

The cultivation of drugs is a very large industry in the old world, in addition to the collection of wild supplies. This industry has been enormously restricted by the scarcity of labor incident to the war, and by the necessity for the employment of this labor in work of more immediate necessity. These cultivated products representing the very highest quality, thus become in poor supply.

The collection of wild supplies of drugs in the old world, is a far more stable and regular procedure than in this country. It is mostly conducted by people with whom it is a regular employment, and who know how to supply a more or less uniform product. Thousands of these men have gone into military service, and the collection and preservation of drugs has passed into less competent hands, and there is an insufficiency of this poorer service. The result has been an inevitable deterioration of quality, increase of impurities and admixtures and a greater number of errors of identity.

Deliberate sophistication is always encouraged and promoted by high prices. With a drug at 6 cents a pound, a 10 percent adulteration will scarcely pay, all things considered, but with the price at 60 cents—and it sometimes shows an increase several times greater than this—the profit is very tempting. It is to be remarked that the federal inspectors stand ready to exclude and do exclude practically all such importations when they are substandard; but with prices so very high as they now are, there are handsome profits in increasing the impurity up to the full legal allowance. It is also to be remembered that interstate inspection of drugs is but feebly carried out.

There are in existence at all times, large stocks of substandard drugs. It would be expected that when a lot of drugs has been found to be clearly and seriously below the legal standard, and in a way that cannot be remedied, it will be destroyed, but such is usually not the case. It is preserved, often for years, in the expectation of the occurrence of some condition, as that of the present, that will favor its distribution.

Purchasers who at ordinary times would not consider taking anything but the very best will now be inclined to treat for a lower grade, especially if they have commitments to deliver at prices prevailing before the rise.

In all of these ways here enumerated, there has been brought about a wide-spread and serious deterioration of quality in drug supplies, notwithstanding the fact that a majority of these influences have been met and checked by the proper officials.

It is not too much to say that the impurities, adulterants and substitutes of the past year, in the drugs offered for import at New York have exceeded the total for the preceding five years, and have perhaps equalled those of the first year of the administration of the present Food and Drugs Act. It can also be asserted that very few of these offerings have gained admission to the country, except after they had been re-conditioned to meet the Federal requirements. It may also be said that but for the Federal inspections under this law, most or all of these drugs would have entered commerce. Not only so, but the amount of those thus offered would have been several times greater than they have been and all would easily have been accepted. Consideration of the details which here follow will probably convince all that the results of this year's operation of the Federal law constitutes a full return for all that its administration has cost since

its enactment. It should be stated that great quantities of samples of spurious and adulterated drugs have been received by our drug houses, subject to approval, which have been rejected upon being condemned by competent authority.

Examination of various state reports show that the simple solutions, spirits and tinctures are still off from standard strength. Twenty-eight out of forty samples were condemned by one State Board, and forty-four out of ninety-seven by another. Spirit of Camphor, Spirit of Anise and Spirit of Peppermint were found very deficient.

On the other hand a very encouraging condition of products as a whole is shown by some state reports. Of two hundred and forty-six samples examined by one State Board only five were branded as adulterated. Thirteen lots of calomel tablets were all full strength. Twenty lots of strychnine tablets gave no wide divergence from claimed strength. Another State Board reports fifty-six varied from standard out of three hundred and thirty-eight.

There are still occurring cases of hasty and ill-advised action in overzealous efforts to execute laws and regulations. A young woman was held five days in confinement on the charge of having heroin in her possession, in spite of her assertion that it was a toilet powder, which statement was later verified by chemical analysis.

There is still good reason for complaint at the carelessness of reports on the part of some having the enforcement of the law in their keeping. It is surprising when the standing of reputable people may be at stake, that such careless statements will be made. As an illustration—Report of one State Board says in relation to an insecticide that "it contains Oil Tar, Oil Pennyroyal, Ammonia and SIMILAR simples. Complete analysis not made." If a complete analysis was not made, why should they state what it contains? As a matter of fact, it did not contain any Oil Tar nor any Ammonia. After a good deal of correspondence they stated that it was not Oil of Tar, but a coal-tar derivative of some sort, but insisted that it contained Ammonia. A subsequent sample they reported did not contain Ammonia and did not contain a coal-tar derivative, while the same percentage of phenol was used in each, both lots being made from the same formula. This was later corrected to read "did not contain Oil of Tar." (Original sample finally sent in had experienced a change of heart since leaving laboratory. It no longer was true to formula. It had an abundance of free ammonia and a tar product not present in the bottle when marketed.) The seriousness of pursuing such a course in uncalled-for injury to others, with possibility of troublesome proceedings to secure justice, and the discrediting of the whole subject of organic assays seems to be lost sight of by some Boards.

The question of misbranding under the new label law is a perplexing one. The article by Prof. J. H. Beal in the *American Druggist* for April 1916 presents many of its aspects in a forceful way and the various decisions of the courts are gradually clarifying it.

It is interesting in this connection to note the results of the examination of six hundred and eleven proprietaries by a committee of the Proprietary Association of America as to their relation to the food and drug and labelling laws of the U. S. and the states. One hundred and sixty complied in every respect. Eighteen were passed after criticism. Thirty-seven provisionally. Three hundred and eighty-eight required amendment and five were withdrawn from the market.

It is easy to see how the letter of the law may be innocently broken. A proposed new A. Ph. A. recipe book formula for "Honey and Almond Cream" does not contain Honey and the title would be misbranding. Other cases of the persistence of old names not accurately descriptive will occur to every one. Again the N. F. adopts preparations with titles long in use by different manufacturers, but applying to entirely different formulas.

One result of the high prices has been to largely curtail the use of the product involved. The bromides serve as an illustration.

	Sold in 1910 at	1913.	1915.	1916.
Ammonium Bromide.....	\$0.30 lb.	\$0.49 lb.	\$4.50 lb.	\$1.00 lb.
Calcium Bromide.....	0.39 lb.	0.44 lb.	3.50 lb.	0.80 lb.
Lithium Bromide.....	1.10 lb.	1.50 lb.	5.00 lb.	... lb.
Potassium Bromide.....	0.19 lb.	0.37 lb.	5.50 lb.	1.35 lb.
Sodium Bromide.....	0.25 lb.	0.45 lb.	3.50 lb.	0.80 lb.
Strontium Bromide.....	0.32 lb.	0.43 lb.	3.50 lb.	0.80 lb.

During the period of excessive prices, from November 1915 to July 18, 1916 their use dropped to nearly the vanishing point. It remains to be seen whether the tumble from the sky to a hole in the ground will restore their popularity.

TABLE.

ACETIC ACID: Six shipments were rejected assaying below the required 36% of absolute acid. H. ENGELHARDT.

Two carboys—U. S. P. standard of purity 80%—assayed 79.06% and 79.21% but would not stand the permanganate test for C. P. E. L. PATCH.

ACID CITRIC: One lot was Tartaric and one a mixture of Citric and Tartaric.

IND. B. H.

ACID OLEIC PURIFIED: A lot had to be rejected on account of containing too large a proportion of solid fatty acids. H. ENGELHARDT.

ACID TANNIC: One lot rejected on account of its dark color. W. L. SCOVILLE.

ACONITE ROOT: One lot assayed very low and contained 6.4% ash. E. L. PATCH.
Of ninety-seven samples of tincture, forty-four were not within 10% of official strength.

NO. DAKOTA EXP. STATION.

Of four samples of root examined three were rejected, assaying below 0.5% of aconitine.

H. ENGELHARDT.

ACONITE TINCTURE: Forty samples assayed 0.013 to 0.051 Gm. Aconitine to 100 Cc. Twenty-eight were below U. S. P. standard of 0.045. CONN. AGRIC. STATION.

ADEPS LANAЕ: Several lots contained petrolatum and resin.

N. Y. COM.

A large shipment of anhydrous was rejected because acid number was too high, probably due to the presence of resin. The product had a very sticky consistence and did not readily mix with water.

H. ENGELHARDT.

Medicinal quality is hard to obtain. It is usually of dark color, strong in odor and frequently shows an excess of sulphur compounds.

W. L. SCOVILLE.

AJOWAN: Vast quantities of this drug have been imported the past year. It appears to have gone mostly to Newark, N. J., for the purpose of manufacturing thymol, which it contains in large percentages.

H. H. RUSBY.

ALCOHOL: Of twelve samples five were ethyl alcohol and seven methyl alcohol variously labeled acetone, alcohol and Columbian spirits.

PROC. N. Y. PHARM. ASSOC.

ALOES: One lot contained no aloin.

W. L. SCOVILLE.

AMYL NITRITE: We were compelled to reject several samples which assayed below the requirements of the U. S. P. We found 72.6%, 70.0%, 71.3%, 74%. The assay was made both by the official gasometric method and by Dietze's potassium chlorate method.

H. ENGELHARDT.

ANTIPYRIN TABLETS: Ten grains assayed 86.5% antipyrine.

E. L. PATCH.

ASAFOETIDA: This article is now almost always good. The standards which were worked out by the U. S. Bureau of Chemistry, and which were submitted to so much criticism by certain English chemists, have been fully justified.

H. H. RUSBY.

Powdered, 20% ash. Insoluble in alcohol, 41.5%. Soluble in alcohol, 53.5%. Moisture, 5%.

E. L. PATCH.

Eleven lots ranged from 32.76% soluble in alcohol and 37.46% ash to 76.4% soluble in alcohol and 6.6% ash. Eight samples contained more than 64% soluble in alcohol, and with one exception, less than 8% of ash. The lowest ash content was 4.58%.

W. L. SCOVILLE.

ASPIRIN: Several lots were adulterated; 100,000 tablets containing little aspirin were seized and destroyed. Of one hundred and twenty-seven lots, nine contained a mixture of salicylic acid and acetyl salicylic acid, twenty-two contained sugar, starch, phosphates, etc., and no aspirin.

CHICAGO HEALTH COM.

BARIUM PEROXIDE has been difficult to obtain and runs lower in strength than in previous years. Two lots accepted contained 78% and 73% BaO₂.

W. L. SCOVILLE.

Lots have contained an excess of sodium chloride.

E. L. PATCH.

BALSAM TOLU: One lot contained 9.8% inert material insoluble in alcohol and contained excess of moisture.

E. L. PATCH.

BELLADONNA LEAF: Twelve samples met the requirements of the U. S. P. Lowest 0.3%, highest 1%.

H. ENGELHARDT.

Five samples, 0.37%, 0.464%, 0.28%, 0.238%, 0.35%.

E. L. PATCH.

Six lots contained from 0.30% to 0.52% alkaloids.

W. L. SCOVILLE.

BELLADONNA ROOT: Four samples had to be rejected, assaying only from 0.4% to 0.445% of total alkaloids.

H. ENGELHARDT.

BEEF EXTRACT

Sodium Chloride 4%	Water 20%	Proteids 54.25%
Sodium Chloride 5.8%	Water 22%	Proteids 52%
Sodium Chloride 6.63%	Water 18.3%	Proteids 46.45%
Sodium Chloride 4%	Water 19%	Proteids 55%
Sodium Chloride 4.93%	Water 14%	Proteids 52.19%

E. L. PATCH.

BEESWAX: Genuine beeswax of Chinese origin has been rejected because its analytical figures vary from the ordinary and its appearance is somewhat different. DRUG TOPICS.

BUCKTHORN BARK: For years this was imported in large quantities from Russia and distributed to the trade. It is now stated that it was the bark of *Rhamnus catharticus* and not *Rhamnus frangula*.

M. G. K. Co.

BUTTERMILK: It is stated that in Philadelphia 85% of the buttermilk sold is made from dried skim milk mixed with water and a little lactic acid. It tastes better than the genuine, but is of inferior value.

N. A. R. D. JOURNAL.

CALCIUM PHOSPHATE PRECIPITATED: One lot labeled "U. S. P." contained 1.32% of CaCl_2 . Another lot labeled "Technical" contained but 1.1% CaCl_2 . The "U. S. P." was priced at a large advance over the "Technical."

E. L. PATCH.

CANNABIS INDICA: Sample of American-grown *Cannabis Indica* was of fine color and appearance, but gave only 5.96% of ether-soluble constituents against an average of 11% in foreign-grown.

E. L. PATCH.

CANTHARIDES, RUSSIAN: A considerable quantity of Mylabris or Chinese blister beetle has been offered under the name of Cantharis. Its admission has been permitted upon an agreement to change the name.

H. H. RUSBY.

CAPSICUM

"Mombassa".....	20%	alcoholic extract,	6.2% ash.
"Choice".....	23%	alcoholic extract,	6% ash.
"Bombay".....	21.7%	alcoholic extract,	8% ash.
"Bombay".....	21.5%	alcoholic extract,	7% ash.
"Bombay".....	19.5%	alcoholic extract,	8% ash.
"Mombassa".....	24%	alcoholic extract,	6% ash.

E. L. PATCH.

CARAWAY SEED: A shipment was received which appeared to be contaminated with mouse dung, but upon examination the latter was found to be a sclerotium, quite closely related to common ergot. Although the amount was small, the poisonous nature of such an admixture called for rigid exclusion.

H. H. RUSBY.

CARD TEETH: A shipment of card teeth had to be rejected because it contained a considerable amount of brass.

H. ENGELHARDT.

Lot 1: Bright, clean, free from rust, free from copper. Trace of grease yielded to ether.

Lot 2: Bright, clean, free from rust, free from grease.

E. L. PATCH.

CASSIA FISTULA: A single shipment of *Cassia Brasiliensis* has been offered as *Cassia fistula*.

H. H. RUSBY.

(To be continued.)

TENTATIVE DEFINITIONS AND STANDARDS FOR CONDIMENT'S
OTHER THAN VINEGARS AND SALT.

January 1917.

The Joint Committee on Definition and Standards is considering the advisability of adopting the following definitions and standards for Spices. Any one interested is invited to present his views to the Committee in writing, addressed to Mr. John Phillips Street, New Haven, Conn., or to Mr. J. S. Abbott, Secretary of the Joint Committee on Definitions and Standards, Bureau of Chemistry, Washington, D. C.

1. *Spices* are aromatic vegetable substances used for the seasoning of food and from which no portion of any volatile oil or other flavoring principle has been removed, and which are clean, sound and true to name.

2. *Allspice, pimento*, is the dried* fruit of *Pimenta officinalis* (L.) Karts., and contains not less than eight percent (8%) of quercitannic acid (calculated from the total oxygen absorbed by the aqueous extract), not more than six percent (6%) of total ash, not more than three-tenths percent (0.3%) of ash insoluble in hydrochloric acid, and not more than twenty-five percent (25%) of crude fiber.

3. *Anise, aniseed*, is the dried,* ripe fruit of *Pimpinella anisum* L. and contains not more than nine percent (9%) of total ash, and not more than two percent (2%) of ash insoluble in hydrochloric acid.

4. *Bay leaves* are the dried * leaves of *Laurus nobilis* L.

5. *Capers* are the flower buds of *Capparis spinosa* L.

6. *Caraway, caraway seed*, is the dried* fruit of *Carum carvi* L., and contains not more than eight percent (8%) of total ash, and not more than one and five-tenths percent (1.5%) of ash insoluble in hydrochloric acid.

7. *Cardamom seed* is the dried* fruit of *Elettaria cardamomum* White and Eaton, and contains not more than eight percent (8%) of total ash.

Cayenne and Red Peppers.

8. *Red pepper* is the red, dried,* ripe fruit of *Capsicum*.

9. *Cayenne pepper, cayenne chilli*, is the dried* ripe fruit of *Capsicum frutescens* L., *Capsicum baccatum* L., or some other small-fruited species of *Capsicum*, and contains not less than fifteen percent (15%) of non-volatile ether extract, not more than six and five-tenths percent (6.5%) of total ash, not more than one percent (1%) of ash insoluble in hydrochloric acid, not more than one and five-tenths percent (1.5%) of starch, and not more than twenty-eight percent (28%) of crude fiber.

10. *Paprika* is the dried,* ripe fruit of *Capsicum annum* L., having the pungency and flavor characteristic of that grown in Hungary.

(a) *Rosenpaprika, roszapaprika, rose paprika*, is paprika prepared by grinding specially selected pods of paprika, the placenta, stalks and the stems being removed, and contains no more seeds than are normal to the pods. It contains not less than fourteen percent (14%) and not more than eighteen percent (18%) of non-volatile ether extract, not more than six percent (6%) of total ash, not more than four-tenths percent (0.4%) of ash insoluble in hydrochloric acid, and not more than twenty-three percent (23%) of crude fiber.

(b) *Königspaprika, king's paprika*, is paprika prepared by grinding whole pods of paprika without selection and includes the seeds and stems naturally occurring with the pods. It contains not less than twelve percent (12%) and not more than eighteen percent (18%) of non-volatile ether extract, not more than six and five-tenths percent (6.5%) of total ash, not more than four-tenths percent (0.4%) of ash insoluble in hydrochloric acid, and not more than twenty-three percent (23%) of crude fiber.

(c) *Pimenton, pimienta*, is the dried,* ripe fruit of *Capsicum annum* L., having the characteristics of that grown in Spain. It contains not less than eleven percent (11%) and not more than fourteen percent (14%) of non-volatile ether extract, and not more than eight percent (8%) of total ash, not more than six-tenths percent (0.5%) of ash insoluble in hydrochloric acid, and not more than twenty-one percent (21%) of crude fiber.

11. *Celery seed* is the dried* fruit of *Apium graveolens* L., and contains not more than ten percent (10%) of total ash, and not more than one percent (1%) of ash insoluble in hydrochloric acid.

12. *Cinnamon* is the dried* bark of certain species of *Cinnamomum*, from which the outer layers may or may not have been removed.

13. *True cinnamon, Ceylon cinnamon*, is the dried* inner bark of *Cinnamomum zeylanicum* Breyne.

14. *Cassia* is the dried* bark of certain species of *Cinnamomum*, other than *Cinnamomum zeylanicum*, from which the outer layers may or may not have been removed.

15. *Cassia buds* are the dried* immature fruits of certain species of *Cinnamomum*.

16. *Ground cinnamon, ground cassia*, is the powder consisting of cinnamon, cassia, cassia buds, or a mixture of these spices, and contains not more than five percent (5%) of total ash and not more than one percent (1%) of ash insoluble in hydrochloric acid.

* The term "dried" as used in this schedule refers to the air-dried spice.

17. *Cloves* are the dried* flower buds of *Caryophyllus aromaticum* L., and contain not more than five percent (5%) of clove stems, not less than fifteen percent (15%) of volatile ether extract, not less than twelve percent (12%) of quercitannic acid (calculated from the total oxygen absorbed by the aqueous extract), not more than seven percent (7%) of total ash, not more than five-tenths percent (0.5%) of ash insoluble in hydrochloric acid, and not more than ten percent (10%) of crude fiber.

18. *Coriander seed* is the dried* fruit of *Coriandrum sativum* L., and contains not more than seven percent (7%) of total ash, and not more than one and five-tenths percent (1.5%) of ash insoluble in hydrochloric acid.

19. *Cumin seed* is the dried* fruit of *Cuminum cyminum* L., and contains not more than eight and five-tenths percent (8.5%) of total ash, and not more than one and five-tenths percent (1.5%) of ash insoluble in hydrochloric acid.

20. *Curcuma, turmeric*, is the dried* rhizome or bulbous roots of *Curcuma longa* L.; (*Amomum curcuma* Jacq.) or *Curcuma rotunda* L.

21. *Dill seed* is the dried* fruit of *Anethum graveolens* L., and contains not more than ten percent (10%) of total ash and not more than three percent (3%) of ash insoluble in hydrochloric acid.

22. *Fennel seed* is the dried* fruit of varieties of *Foeniculum vulgare* Hill, and contains not more than nine percent (9%) of total ash and not more than two percent (2%) of ash insoluble in hydrochloric acid.

23. *Fenugreek* is the dried* fruit of *Trigonella Foenum-graecum* L., and contains not more than five percent (5%) of total ash.

24. *Ginger* is the washed and dried,* or decorticated and dried, rhizome of *Zinziber officinale* Roscoe, and contains not less than forty-two percent (42%) of starch,† not more than eight percent (8%) of crude fiber, not more than seven percent (7%) of total ash, not more than one percent (1%) of lime, not more than two percent (2%) of ash insoluble in hydrochloric acid, not less than fourteen percent (14%) of cold water extract, and not less than two percent (2%) of ash insoluble in cold water.

25. *Limed ginger, bleached ginger*, is whole ginger coated with carbonate of lime, and contains not more than ten percent (10%) of total ash, not more than four percent (4%) of carbonate of lime, and conforms in other respects to the standard for ginger.

26. *Horse-radish* is the root of *Radicula armoracia* (L.) Robinson.

27. *Prepared horse-radish* is comminuted horse-radish with or without vinegar.

28. *Mace* is the dried* arillus of *Myristica fragrans* Houttuyn, and contains not less than twenty percent (20%) nor more than thirty percent (30%) of non-volatile ether extract, not more than three percent (3%) of total ash, not more than five-tenths percent (0.5%) of ash insoluble in hydrochloric acid, and not more than ten percent (10%) of crude fiber.

29. *Macassar mace, Papua mace*, is the dried* arillus of *Myristica argentea* Warb.

30. *Marjoram* is the dried* leaves, with or without a small proportion of the flowering tops, of *Marjorana hortensis* Moench, and contains not more than sixteen percent (16%) of total ash, and not more than four and five-tenths percent (4.5%) of ash insoluble in hydrochloric acid.

31. *Mustard seed* is the seed of *Sinapis alba* L. (white mustard), *Brassica nigra* (L.) Koch (black mustard), or *Brassica juncea* (L.) Cosson (black or brown mustard).

32. *Ground mustard* is the powder made from mustard seed, with or without the removal of the hulls and a portion of the fixed oil, and contains not more than one and five-tenths percent (1.5%) of starch† and not more than six percent (6%) of total ash.

33. *Prepared mustard, German mustard, French mustard, mustard paste*, is a paste composed of a mixture of ground mustard with salt, a vinegar, and spices which do not simulate the color of ground mustard; and calculated free from water, fat, and salt contains not more than twenty-four percent (24%) of carbohydrates (calculated as starch†), not more than twelve percent (12%) of crude fiber, and not less than five and six-tenths percent (5.6%) of nitrogen derived solely from the materials named above.

* The term "dried" as used in this schedule refers to the air-dried spice.

† The term "starch" as used in this schedule refers to starch as determined by the official diastase method.

34. *Nutmeg* is the dried* seed of *Myristica fragrans* Houttuyn, deprived of its testa, with or without a thin coating of lime, and contains not less than twenty-five percent (25%) of non-volatile ether extract, not more than five percent (5%) of total ash, not more than five-tenths percent (0.5%) of ash insoluble in hydrochloric acid, and not more than ten percent (10%) of crude fiber.

35. *Macassar nutmeg*, *Papua nutmeg*, *male nutmeg*, *long nutmeg*, is the dried* seed of *Myristica argentea* Warb., deprived of its testa.

36. *Paradise seed*, *grains of paradise*, *Guinea grains*, *Melegueta pepper*, is the seed of *Amomum melegueta* Roscoe.

37. *Parsley leaves* are the leaves of *Petroselinum sativum* Hoffman.

38. *Black pepper* is the dried* immature berry of *Piper nigrum* L., and contains not less than seven percent (7%) of non-volatile ether extract, not less than twenty-eight percent (28%) of starch,† not more than six and five-tenths percent (6.5%) of total ash, not more than five-tenths percent (0.5%) of ash insoluble in hydrochloric acid, and not more than fourteen percent (14%) of crude fiber. One hundred parts of the non-volatile ether extract contain not less than three and twenty-five hundredths (3.25) parts of nitrogen.

39. *Ground black pepper* is the product made by grinding the entire berry of *Piper nigrum* L., and contains the several parts of the berry in their normal proportions.

40. *Long pepper* is the dried* fruit of *Piper longum* L.

41. *White pepper* is the dried* mature berry of *Piper nigrum* L., from which the outer coating or the outer and inner coatings have been removed, and contains not less than seven percent (7%) of non-volatile ether extract, not less than fifty-two percent (52%) of starch,† not more than three per cent (3%) of total ash, not more than three-tenths percent (0.3%) of ash insoluble in hydrochloric acid, and not more than five percent (5%) of crude fiber. One hundred parts of the non-volatile ether extract contain not less than four (4) parts of nitrogen.

42. *Peppermint* is the dried* leaves and flowering tops of *Mentha piperita* L., and contains not more than twelve percent (12%) of total ash.

43. *Saffron* is the dried* stigma of *Crocus sativum* L., without more than ten percent (10%) of yellow styles, and contains not more than six percent (6%) of total ash, not more than one percent (1%) of ash insoluble in hydrochloric acid, and not more than fourteen percent (14%) of volatile matter when dried at 100° C.

44. *Sage* is the dried* leaf of *Salvia officinalis* L., and contains not less than one percent (1%) of volatile ether extract, not more than ten percent (10%) of total ash, not more than one percent (1%) of ash insoluble in hydrochloric acid, and not more than twenty percent (20%) of crude fiber.

45. *Savory*, *summer savory*, is the dried* leaf, blossom, and branch of *Satureja hortensis* L., and contains not more than twelve percent (12%) of total ash, and not more than one and five-tenths percent (1.5%) of ash insoluble in hydrochloric acid.

46. *Spearmint* is the dried* leaves and flowering tops of *Mentha spicata* L.

47. *Star aniseed* is the dried* ripe fruit of *Illicium verum* Hook., and contains not more than five percent (5%) of total ash.

48. *Taragon* is the dried* young leaves and flowering tops of *Artemisia dracunculus* L.

49. *Thyme* is the dried* leaves and flowering tops of *Thymus vulgaris* L. and contains not more than fourteen percent (14%) of total ash, and not more than four percent (4%) of ash insoluble in hydrochloric acid.

REPORT OF THE SPECIAL COMMITTEE ON COMPULSORY HEALTH INSURANCE OF THE CHICAGO BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

The special committee appointed to consider the subject of compulsory health insurance respectfully reports as follows:

The Health Insurance Bill proposed by the American Association for Labor Legislation is a lengthy measure, consisting of 59 separate sections, providing for the compulsory insurance of

* The term "dried" as used in this schedule refers to the air-dried spice.

† The term "starch" as used in this schedule refers to starch as determined by the official diastase method.

certain classes of wage workers. The bill proposes methods for raising funds for meeting the expenses of such insurance, and provides for the creation of a State Social Insurance Commission and of certain other boards and committees which are to be charged with the administration of the various provisions of the act.

Because of the length and complexity of the proposed measure, and the close inter-relation of provisions distributed through the different sections—the effects of which can not be appreciated without long and careful study—and the further fact that the bill would require the state to assume new and unusual functions that are to be discharged through new and untried instrumentalities, your committee does not feel able at this time to present any final criticism or pronounce any final judgment thereon, and accordingly presents the following as a preliminary report or as a report of progress:

SOME LEADING FEATURES OF THE BILL.

A complete and critical analysis of all of the provisions of the bill would require many pages for its presentation, and therefore only a few of its more important features are given below.

Classes of Persons Insured.—Every person employed at manual labor under any form of wage contract, within the state, except home workers and casual employees, and every other worker who does not receive compensation in excess of \$100.00 per month is to be compulsorily insured. "Home workers and casual employees" are to be provided for by special regulations of the Insurance Commission. Other exceptions are employees of the United States, or of the state or municipality for whom health insurance is already provided by legally authorized means.

Provision is also made for the voluntary insurance of self-employed workers and of members of the family of the employer and of certain other persons under specified conditions. (Secs. 3, 4 and 5.)

Insurance Benefits.—Insurance benefits under the proposed law are to consist of the following:

In case of any illness, or of accident or death not covered by workmen's compensation, and including all medical, surgical and nursing attention and treatment for the insured persons and of dependent members of their families, and medical and surgical supplies to the extent of \$50.00 in any one year, together with a cash benefit equal to two-thirds of the weekly wage of the insured for 26 weeks, and in case of death a funeral benefit of \$50.00. (Secs. 6, 7, 8, 9, 12, 15.)

Instead of home treatment the insured may be treated in a hospital or sanatorium, in which case the cash benefit shall be reduced to one-third of the weekly wage, and paid to the insured member's family. (Secs. 13 and 16.)

Maternity benefits are to be paid to insured women or to the wife or widow of an insured worker for six months during the year preceding confinement. (Sec. 8.) Additional benefits may be granted in certain cases. (Sec. 20.)

Cost and Contributions.—The cost of the benefits provided for in the bill is to be met by contributions from employers, employees and the state in the proportion of 40 percent by the employee, 40 percent by the employer, and 20 percent by the state. If the employee earns less than \$9.00 per week his contribution is reduced in proportion and that of the employer correspondingly increased. (Sec. 22.)

The bill places no limit upon the funds which may be thus collected, but provides merely that the amount "shall be computed so as to be sufficient for the payment of benefits and the expenses of administration of the fund and necessary reserve and guarantee funds." (Sec. 23.)

In addition to its contribution of 20 percent of the benefit funds, the state is largely charged with the expenses of administration, such as the salaries of the Commissioners and their employees, and other matters. (Secs. 43, 44, 45, 46, 47, etc.)

MACHINERY OF ADMINISTRATION.

The machinery of administration is to consist of certain state bodies having a general supervision over the administration of the law, and of certain local or district bodies operating under the supervision of the state officials. The general or state bodies are to be a Social Insurance Commission, a Social Insurance Council, and a Medical Advisory Board.

The State Social Insurance Commission.—The supreme governing body is the State Social Insurance Commission, consisting of three members, one of whom shall be a physician, appointed by the Governor and paid by the state.

The Commissioners must give their whole time to the work, and may not have any other employment or hold any other political office or appointment.

The Social Insurance Commission is charged with the general work of administration, and with the supervision of the local or district funds and societies. (Secs. 43, 44, 45, 46, 47, 48, 49, 50, 51.)

The Social Insurance Council.—The Social Insurance Council is to consist of twelve members, six to be elected by the employer directors of the local funds and six by the employee directors of the local funds. Members are to hold office for two years, and to receive a per diem allowance and their necessary expenses while in attendance at meetings. Four regular meetings are to be held annually and such additional meetings as may be deemed necessary.

The duties of the Council are to pass upon regulations proposed by the Commission, and upon the annual report which the latter is to submit to the Governor.

Though it may pass and report upon such regulations and reports as are laid before it, it does not appear that the Council has any veto power over the acts of the Commission and is apparently merely an advisory body. (Secs. 52, 53, 54, 55.)

The Medical Advisory Board.—The Medical Advisory Board is to be chosen by the State Medical Societies. (Sec. 56.) The number of members of this board is not specified, nor is there given any definition of what shall constitute a state medical society within the meaning of the act. The indefiniteness of this section is sure to be provocative of many disputes.

The Medical Advisory Board must be consulted on medical matters (Sec. 56), and shall also pass upon all disputes between insured persons and physicians and between local funds and physicians before the State Social Insurance Commission may consider and decide such disputes. (Sec. 14.)

LOCAL ADMINISTRATIVE BODIES.

The local administrative bodies provided for consist of the local Insurance Carriers, referred to in the bill as "Carriers" or "Funds," together with Committees of the Fund, Boards of Directors, and Arbitration Committees.

Insurance Carriers or Funds.—The State Commission is to divide the state into districts, each of which shall contain not less than 5,000 persons subject to compulsory insurance, and in each of which there shall be established one or more local or trade funds to carry the insurance of those who are members of the respective funds, and which are to operate under supervision of the other local bodies and of the Social Insurance Commission. (Secs. 25, 26, 27, 28.)

Every person subject to compulsory insurance is by definition a member of the trade fund of his trade, or if there is no such special trade fund, a member of the local fund of his district. Employers are employer members of all funds of which any of his employees are members. (Sec. 34.)

Committees of the Fund.—For each of such local or trade funds there is to be a committee of not less than 20 nor more than 100 members, elected annually, one-half by employer members and one-half by employee members of the fund. The only apparent duties of the Committee of the Fund are to elect the Board of Directors and to pass upon the annual report and account submitted by the latter. (Secs. 29, 30.)

The Board of Directors.—The Board of Directors is to consist of not less than 8 nor more than 18 members, elected by the Committee for a term of one year, one-half representing the employer members and one-half the employee members of the fund.

The Board of Directors is charged with the general administration of the local fund, in accordance with the provisions of the constitution of the fund and under the supervision of the State Insurance Commission, and is required to accumulate a reserve from the annual income which shall be equal to one-sixth of the cash expenditures for the preceding three years.

Members of the Board of Directors are to receive \$5.00 a day while attending meetings. (Secs. 31, 32.)

Arbitration Committees.—Arbitration Committees are appointed by the State Social Insurance Commission to pass upon disputes between physicians and insured persons or between physicians and the local funds, but the State Commission is prohibited from deciding any appeal from such Arbitration Committee until after the same shall have been passed upon by the State Medical Advisory Board. (Sec. 14.)

The above is a very brief and very incomplete presentation of the more salient features of the Health Insurance measure proposed by the American Association for Labor Legislation. A complete analysis of all of the features worthy of special study would require many times the space which can be devoted to it in this preliminary report.

SOME ALLEGED OBJECTIONS TO THE HEALTH INSURANCE BILL.

In a circular issued by the Insurance Economics Society of America it is alleged:

- (1) That the law could not be enforced without exercise of the police power of the state.
- (2) That the law could not reach and serve more than 25 percent of the persons nominally coming within its terms.
- (3) That the state would collect a tax of \$5.00 to effect a saving of \$1.00.
- (4) That the wage earner would be forced to pay \$9.60 to save \$4.80.
- (5) That if the 33,500,000 wage earners of the country could be brought within the operation of the law it would create 3,350,000 discards who, because of age or physical disability, could not secure employment because of their uninsurable condition.
- (6) That it would furnish employment or remunerative association for 250,000 politicians.
- (7) That carrier funds to the amount of \$150,000,000 annually would be politically controlled or administered.
- (8) That it would permit a small percentage of physicians to control most of the industrial practice.
- (9) That it would constitute an interference with religious liberty by compelling the medical examination of and medical treatment of Christian Scientists.
- (10) That it would cost the State of Illinois the sum of \$12,500,000 annually, or an addition equal to 83 percent of its present annual tax burden.
- (11) That it would cost the employers of the State of Illinois, as contributors to the funds and in the form of taxes, the sum of \$35,500,000 annually.
- (12) That it would cost the wage earners of the State of Illinois \$23,040,000 annually.

This committee does not vouch for the accuracy of the foregoing statements but presents them as the expressions of persons who have made a special study of health insurance and who should be well qualified to express opinions with reference thereto.

RECOMMENDATIONS.

This committee does not wish to be understood as being at present either in favor of or as opposed to legislation proposing to establish compulsory health insurance.

Rather it is our desire to study the whole subject in a purely judicial frame of mind, and to reach conclusions that shall be as nearly as possible devoid of partisan bias, or prejudice growing out of our professional relations to the sick. For the present, therefore, we submit for your consideration the two following recommendations:

(1) That the Committee on Health Insurance be continued, with instructions to continue its study of the subject of health insurance and to report thereon from time to time as it may deem advisable.

(2) That there be adopted and transmitted to the President of the Senate and to the Speaker of the House of Representatives of the General Assembly of the State of Illinois, as expressing the sense of the Chicago Branch of the American Pharmaceutical Association, the following resolution:

RESOLVED, That recognizing the importance of the subject of Compulsory Health Insurance and the evils of hasty and ill-considered legislation passed upon the initiative of bodies organized to promote such legislation, often *ex parte*, as it were, the Chicago Branch of the American Pharmaceutical Association earnestly recommends to the General Assembly of the State of Illinois that no bill providing for compulsory health or other compulsory social insurance be passed for the present; but, instead, that a commission be appointed of impartial men not committed on the subject, to investigate the whole question from every angle; to give all interested an opportunity to be heard and finally to report their conclusions to the next session of the General Assembly.

COUNCIL BUSINESS

A. PH. A. COUNCIL LETTER NO. 11.

PHILADELPHIA, PA., November 18, 1916.

To the Members of the Council:

Motion No. 11 (Election of C. H. LaWall as a Member of the Committee on Recipe Book). In accordance with recommendation of Chairman Raubenheimer, of Committee on Recipe Book, F. M. Apple moves, seconded by Dr. F. E. Stewart, that Charles H. LaWall be elected a member of the Committee on Recipe Book to succeed H. P. Hynson, term expiring in 1920.

The following motion has been received:

Motion No. 12 (Fund for Proposed A. Ph. A. Home). Moved by H. M. Whelpley, and seconded by Otto F. Claus, that Dr. James H. Beal be appointed chairman of a special committee to raise funds for a proposed A. Ph. A. Home, and that Dr. Beal be authorized to select his own associates on the committee and requested to report progress from time to time.

The motion is open for discussion. A vote will be called for later.

For information it may be stated that at the first general session of the Association at Nashville in 1913 President Day referred in his annual address to the subject of an A. Ph. A. Home and recommended that it be thoroughly discussed in the general sessions and by the House of Delegates. The suggestion was reported upon at the final general session of the Association by the Committee on President's Address, as follows:

"We recommend that the Council be instructed to continue consideration of the project of a building to serve as headquarters for the Association. In this connection, the Committee suggests that the prospective structure be called the A. Ph. A. *Building*, because of the ambiguity of the word "Home," which has been used.

The report of the committee was referred to the Council with a favorable recommendation (Journal A. Ph. A., 1913, 1038, 1206).

At the final meeting of the Council for 1912-13, held at Nashville on August 18, 1913, William R. White offered on behalf of the Nashville Industrial Bureau to the American Pharmaceutical Association the right and title to one of several tracts of land situate in Nashville on condition that the Associa-

tion build an appropriate structure. The offer was received and placed on record for future consideration.

Since this meeting no further action has been taken.

In re election of member of Committee on National Formulary to succeed Prof. C. Lewis Diehl, who resigned as Chairman of the Committee (C. L. No. 4, 8), M. I. Wilbert raises the point of order that Prof. Diehl is still a member of the Committee even though not Chairman, and an examination of the By-Laws seems to support this view.

Thus, Chapter VII, Article VII, reads as follows:

"Whenever deemed advisable by the Council, it shall after the publication of each addition of the National Formulary appoint a committee of fifteen members from the general membership of the Association, which committee shall have charge of the revision of the Formulary. This committee shall report annually, or as often as required, to the Council, and shall continue to serve until the edition for which it was appointed has been completed. Vacancies occurring in this committee shall be filled by the Council as quickly as is expedient."

Apparently, either the Council or the Committee itself may appoint the Chairman.

In connection with this subject, the following letter has been received from George M. Beringer:

"In the matter of motion regarding the National Formulary Committee presented in Council Letter No. 4 (and especially to the members of the Committee on Revision of Constitution and By-Laws in Letter No. 1), I am inclined to think that the point of order raised by Mr. Wilbert is well taken. Professor Diehl is still a member of the Committee. We certainly owe, as a matter of respect and courtesy to the retiring chairman, that we show our appreciation of his many years of service in the interests of the National Formulary by permitting the present status quo to hold.

'As there is no vacancy in the membership of the Committee, the nomination of Dr. Fantus was certainly out of order. When it comes to the selection of a chairman for this committee, my thought is that we must give

earnest consideration to see that the right person is selected. The chairman should be one who has taken an active interest in the last revision and who possesses the requisite qualifications for this post. If nominations for chairman are to be opened, then I desire to present another name, but my view is now that there should be no chairman selected until a new chairman is selected for the committee for the next revision.

"The present committee have, undoubtedly, completed the 'edition for which it was appointed.' The committee's continuation, as I understand the action of the Council, is solely for the purpose of correcting any palpable errors that may have crept into the work and not with the view of continuing a revision already completed and published.

"I had hoped that the Committee would make a report at the last meeting of the Association upon a method of revision to be carried out by the next committee of revision. That they failed to give timely consideration to this important subject is possibly due to the illness of the chairman.

"If a motion is necessary, I will move 'That the present status quo of the National Formulary Committee be continued.'

"In explanation of this, my intent is that the vice-chairman should continue and the committee should continue to perform such acts of correction as may be necessary in the present edition, but that all later revision work be left to the next Committee on National Formulary Revision to be appointed by the Council."

Very truly yours,

J. W. ENGLAND,

Secretary.

415 N. 33RD STREET.

A. PH. A. COUNCIL, LETTER NO. 12.

PHILADELPHIA, PA., January 18, 1917.

To the Members of the Council:

Motion No. 20 (Election of Members, applications Nos. 51 to 67, inclusive) has received a majority of affirmative votes.

The Council is advised that at the January (1917) meeting of the New York Branch, Jeannot Hostmann was elected Council representative from the Branch.

The Council is advised also, that at the December (1916) meeting of the Washington Branch, Henry C. Fuller was elected Council representative from the Branch.

The following resolutions were passed by the Washington Branch:

Resolutions passed at a meeting of the Washington Branch of the American Pharmaceutical Association held December 27, 1916.

By the death of Martin I. Wilbert, one of the ablest representatives of the pharmaceutical profession, has been removed from the field of activity. Mr. Wilbert's many years in the active practice of his calling resulted in his obtaining a thorough knowledge of and a wealth of experience in all branches of pharmacy, and his wide acquaintance and association made him appreciative of the relations between his own and the allied professions of chemistry and medicine. His industry and his enthusiasm were unbounded and were typically characteristic of the man, and these qualities, together with his broad and tolerant outlook, and his kindly and genial nature, endeared him to his friends and begat the esteem of all his associates. He was one of the founders of the Washington Branch of the American Pharmaceutical Association and an energetic worker in its behalf.

Mr. Wilbert died on the firing line with many years of activity still before him, a comparatively young man, an inspiration to his immediate contemporaries and the youth of the pharmaceutical profession.

Be it resolved therefore by the Washington Branch of the American Pharmaceutical Association that the sincere sympathy of the officers and members be extended herewith to Mrs. Wilbert in her great loss and that a copy of these resolutions be transmitted to the Council of the American Pharmaceutical Association to be spread upon the records.

H. C. FULLER,

WYMOND H. BRADBURY,

LEWIS FLEMER,

Committee.

At the December (1916) meeting of the Philadelphia Branch, writes Secretary J. Ed. Brewer, during a discussion on the question, "What Disposition shall be made of the Year Book," the following points were emphasized:

1. The A. Ph. A. gives each member more than his dues will pay for, hence each year there is a deficit. This must be met with an increase of revenue or decrease of expenditures. The former can be brought about only by an increase of dues; the latter, most feasibly either by discontinuing the Year Book, or publishing it in the JOURNAL from time to time.

2. The continuance of the Year Book is absolutely necessary for the progress of American Pharmacy, for it is only by the use of this and allied works that any progress is made. Were it not for this systematized and carefully indexed account of what has been done, information which can now be obtained in a few moments, would be available only after an extended time- and patience-consuming search through many journals.

In accordance with this view, the following resolution was proposed and adopted:

Resolved, That the Philadelphia Branch go on record as favoring the continuance of the JOURNAL and the Year Book, as at present, and that any deficit which might occur be met with an increase in dues; and further, that the Secretary be instructed to send copies of this resolution to the Council and to the secretaries of the various Local Branches.

The Secretary of the Council received the following letter from Dr. James H. Beal:

"Your esteemed favor of December 28th, advising me of the adoption of a resolution appointing me Chairman of a committee to consider the project of establishing a permanent A. Ph. A. Headquarters, and to report a comprehensive plan for the establishment and maintenance of the same, came to hand while I was at Camp Walton, Florida.

"At the present time, I have so much A. Ph. A. work on my hands in connection with the Commission on Proprietary Medicines, the Committee on President's Address, and the National Drug Trade Conference, that I feel that I ought not to accept any additional association appointments. Please, therefore, return my thanks to the Council for the honor conferred upon me by the election to this committee and advise them that the appointment is respectfully declined."

Dr. Beal was written to and urged to reconsider his decision and his reply is as follows:

"Your kind favor of January 11 at hand. I do not feel that it would be just either to myself or to the Association to accept appointment on the committee to devise a plan for a headquarters building. Last year I gave more than fifty percent of my working time to A. Ph. A. affairs, and some hundreds of dollars expended in attending association meetings as a delegate. This year I have not

accepted quite so many appointments, but I still have on hand the following:

"Chairmanship of the Commission on Proprietary Medicines.

"Delegate to the National Drug Trade Conference.

"Chairmanship of the Committee on President's Address.

"Chairmanship of the House of Delegates.

"Membership on the Committee to devise a Model Pharmacy Law.

"Each one of the above appointments will require a considerable expenditure of thought and time, and to assume any additional obligations at this time would not be wise.

"With best wishes, I remain, etc."

Motion No. 21 (Election of Members). The following applications for membership have been presented:

No. 68. John Albert Martin, Jr., 936 15th St., Denver, Colo., rec. by F. W. Nitardy and W. A. Hover.

No. 69. Stanley C. Clarke, 1275 Curtis St., Denver, Colo., rec. by F. W. Nitardy and J. W. England.

No. 70. Lewis M. Horwitz, 87 W. 50th St., Bayonne, N. J., rec. by Reuben J. Botkin and W. B. Day.

No. 71. George Byrd, 224 E. Spring St., Fayetteville, N. C., rec. by W. W. Horne and D. T. Briles.

No. 72. Frank Henry Gazzolo, 119-123 S. Green St., Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.

No. 73. Karl William Hoff, care Eli Lilly & Co., Indianapolis, Ind., rec. by Francis E. Bibbins and C. E. Lawson.

No. 74. J. B. Galloway, 1625 Van Buren St., Chicago, Ill., rec. by Wm. Gray and Wm. B. Day.

No. 75. Ignatius Kingman, East Grand Forks, Minn., rec. by H. M. Whelpley and J. W. England.

No. 76. Christian H. Schoenhut, 410 W. Superior Ave., Cleveland, Ohio, rec. by Henry M. Whelpley and J. W. England.

J. W. ENGLAND,
Secretary of the Council.

415 N. 33RD STREET, PHILA.

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Office of Publication, 253 Bourse Building, Philadelphia, Pa.

SPHAGNUM MOSS AS A SURGICAL DRESSING.

Necessity has developed a more extended use of sphagnum moss in Europe as a surgical dressing; however, it has been demonstrated that in some respects the moss is actually superior to cotton for this purpose.

During a recent meeting of the Pharmaceutical Society in Edinburgh, Alexander McCutcheon described the harvesting of sphagnum moss, and in the discussion which followed, a demonstration of the absorbent powers of the moss was made. The sample was tightly compressed, but the instant water was applied it swelled, and not only does the moss absorb relatively more water, but the absorption takes place both upwards and laterally and a discharge does not come through to the surface as is the case in the application of cotton, wherein the absorption is in one direction.

THE FIRST ENDOWED DRUG STORE.

According to the *Apothecary*, Middleboro, Mass., is to have an endowed drug store, when certain provisions of the will of David G. Pratt, once a member of the Governor's Council, become effective. Mr. Pratt's will, which disposes of an estate of \$276,000, was admitted to probate in the Plymouth county probate court.

The entire estate is left to the widow, Mrs. Marion Grace Pratt, who is named as executor. Upon her death one-third of the estate is to be set aside as the "David G. Pratt trust fund" for the establishment of a pharmacy at Middleboro, where Mr. Pratt spent the greater part of his life. The establishment, the will provides, is to be in charge of a registered pharmacist, and supplies are to be furnished free to "deserving and needy persons" and also to "sojourners." A recommendation from a trustee or a physician will be necessary.

However, it is set forth that drugs and supplies will be sold for cash to those able to pay

and that if any surplus accumulates this money is to be devoted to the building of roads and sidewalks.

THE ASPIRIN QUESTION.

At the meeting of the National Drug Trade Conference held in Washington, January 16, 1917, a committee was appointed "to inquire into and report as to whether the word 'aspirin' will become public property after the expiration of the Hoffmann patent on acetyl salicylic acid." This committee conferred with Messrs. R. S. and A. B. Lacey, patent counsel, of Washington, D. C., who have rendered the following opinion, which is submitted as the report of the committee to the conference and is released by the National Drug Trade Conference for the information of the drug trade at large, *but necessarily without assuming any obligation to any one who may choose to act upon the opinion*.

Space will not permit the publication of the complete report or opinion but is given in part only and also that of the attorneys for The Bayer Company, Inc. It will be readily seen that there are differences of opinion and that the question will very likely be decided in court.

BURDEN OF PROOF.

The burden of proving that aspirin has become a generic name will, of course, be upon the manufacturer or other person who enters upon the making and marketing of the drug and is sued for infringement of the trademark. It is thought, however, that the burden will not be excessive. Expressions used by the courts in the cases reported in 179 Fed. Rep., 707, and 203 Fed. Rep., 476, above mentioned, indicate that druggists and pharmacists used the term "aspirin" interchangeably with the term "acetyl salicylic acid," and are, therefore, persuasive that aspirin can and has become a generic name. These cases, moreover, are thought to establish beyond any question that the patent and not the trade-mark gave value to the article. The drug is fre-

quently referred to in newspaper articles as though it were a common well-known drug, the name being printed in the ordinary type without quotations, and without being distinguished in any way from the accompanying text and being mentioned in exactly the same manner as an apple or an orange would be mentioned.

An extensive advertising campaign has been incorporated within the last year by the Bayer Company, having for its object the identification of the Bayer Company with the manufacture of aspirin. The advertisements refer to Bayer tablets of aspirin, which in itself is a tacit admission that aspirin is a generic name of an article and is not a designation of the origin of the article. An advertisement before the writer, emphasizes an insignia consisting of a circular space or disk upon which the name "Bayer" appears in the form of a cross and, consequently, points to this insignia rather than to the name "aspirin" as a designation of the place of origin. It is true the advertisement contains a reference to the registration of the trade-mark "aspirin," but this reference is in such small type that it cannot counteract the admission to be inferred from the main text of the advertisement that aspirin has become a generic name.

For the reasons set forth it is thought the manufacture of the patented drug may be undertaken by any one after the expiration of the patent on the 27th inst., and that the drug may be marketed under the name "aspirin," provided it is so marked as to distinguish it from the product of Bayer & Co., for instance, "John Doe's Aspirin."

The registration of the trade-mark in foreign countries is thought to be immaterial, as the question to be answered is: Has the word "aspirin" become a generic name in the United States for pure acetyl salicylic acid?

The word "aspirin" is not used as a trade-mark unless it is applied to the goods or the packages containing the same. Hence, it is permissible to mark the packages acetyl salicylic acid and in newspapers and circulars advertise the fact that aspirin and acetyl salicylic acid are the same thing. Such a course seems to have been judicially sanctioned in *Celluloid Mfg. Co. vs. Cellonite Mfg. Co.*, 32 Fed. Rep., 94, a decision of the Circuit Court prior to the decision of the Supreme Court in the Singer case.

Respectfully submitted,

R. S. & A. B. LACEY,
A. B. LACEY.

OPINION OF GIFFORD & BULL, ATTORNEYS
FOR THE BAYER COMPANY, INC.

The following letter from Gifford & Bull, attorneys for The Bayer Company, Inc., sets forth the grounds upon which that company is acting:

In my opinion your right to the exclusive use of "aspirin" as a trade-mark to distinguish the Bayer manufacturers of acetyl salicylic acid will not expire with the patent. In forming this opinion I have fully considered the Singer, Lanolin and other decisions. None of them are applicable. The facts appertaining to "aspirin" are the reverse of those upon which such decisions depended. Some of these facts are the following:

1. The patent itself gave the name "acetyl salicylic acid" to the therapeutical substance, and the most that the public can acquire by the expiration of the patent is the right to designate the substance by that name.

2. Prior to the issue of the patent, February 27, 1900, the name "aspirin" had been adopted and applied as the trade-mark distinguishing the Bayer manufacture both in this country and abroad.

2. "Aspirin" was registered as the trade-mark of the Bayer manufacture in the United States Patent Office May 2, 1899, and therefore prior to the date of the patent, and no subsequent patent can detract from the exclusive rights acquired by this registration under the trade-mark statute.

4. In all foreign countries the therapeutical substance of Bayer manufacture is distinguished by the name "aspirin" from all other manufactures of the same substance which are designated by the name "acetyl salicylic acid," or its translation, often coupled with the name of the house manufacturing it, or even by arbitrary names which were registered by the manufacturers as independent trade-mark names.

5. "Aspirin" was registered as the trade-mark of the Bayer manufacture not only in the United States, but in most civilized countries.

6. During the term of the patent the substance was imported extensively into the United States by infringers as acetyl salicylic acid in defiance of the United States patent, and was known and sold by druggists all over the country.

7. By no act or word have you ever indicated the intention to dedicate the name "aspirin" to any other manufacture of the article, but in labels, advertisements and propaganda you have informed the public that this name was not that of the article, but of the Bayer manufacture thereof.

8. Official publications, such as the Pharmacopoeia, the Dispensatory, the publications of the American Medical Association, and the government literature, have applied the name "Acetyl Salicylic Acid" to the therapeutical substance.

9. The purity and uniformity of the Bayer manufacture have been so jealously guarded in all the "aspirin" sold ever since its introduction in all countries of the world that the value of the trade-mark "Aspirin" as the representative of this purity and uniformity rises superior to that of the United States patent, both with respect to the public and yourselves, particularly in view of the therapeutical uses of the substance.

10. "Aspirin" has been sold with the following statement, or its equivalent, on the label:

"The name of the substance is 'Monoacetic-acid-ester of salicylic acid.' The word 'aspirin' identifies it as the manufacture of the *Farben-fabriken vorm. Friedr. Bayer & Co., Leverkusen, Germany*, or of the assignee of its manufacturing good will in the United States."

The label also contained the following:

"The word 'aspirin' is also protected by registered trade-mark No. 32805."

All of the above facts concur in supporting the conclusion that your exclusive rights in the trade-mark "aspirin" will in no way be affected by the expiration of the patent on acetyl salicylic acid.

Yours truly,

(Signed) LIVINGSTON GIFFORD.

REVISED C. V. D. A. BROCHURE.

A Revised C. V. D. A. Brochure has been prepared by George Engelhard with the assistance of the officers of the Chicago Veteran Druggists' Association, and is from the press of the *Western Druggist*, published by G. P. Engelhard & Co.

The object of this interesting booklet is to preserve a record of the members who have gone before, as well as of those who now comprise the membership. The work of the publishers is excellent and the engravings of the members are well arranged. There are also a number of illustrations that present the members in groups on various occasions and form a part of the history of this organization. On the cover is a carnation and under it the inscription, adopted by the Association as a motto, "Cheers for the living—tears for the dead." The occasion for the presentation was the twentieth anniversary, and the booklet is dedicated to the founder, Thomas Nevin Jamieson.

STANDARDS FOR EDIBLE VEGETABLE FATS AND OILS.

The U. S. Department of Agriculture in F. I. D. 169 outlines the following definitions for edible vegetable fats and oils:

Edible fats and edible oils are such glycerids of the fatty acids as are recognized to be wholesome foods. They are dry and sweet in flavor and odor.

Cacao butter, cocoa butter, is the edible fat obtained from sound cacao beans (*Theobroma cacao* L.), either before or after roasting.

Coconut oil, copra oil, is the edible oil obtained from the kernels of the coconut (*Cocos nucifera* L., or *Cocos butyracea* L.).

Cochin oil is coconut oil prepared in Cochin (Malabar).

Ceylon oil is coconut oil prepared in Ceylon.

Corn oil, maize oil, is the edible oil obtained from the germ of Indian corn, maize (*Zea mays* L.).

Cottonseed oil is the edible oil obtained from the seed of the cotton plant (*Gossypium herbaceum* L.), or from the seed of other species of *Gossypium*.

Olive oil, sweet oil, is the edible oil obtained from the sound, mature fruit of the olive tree (*Olea europaea* L.).

Palm kernel oil is the edible oil obtained from the kernels of the fruit of the palm tree (*Elaeis guineensis* L., or *Elaeis Melanococca* Gart.).

Peanut oil, arachis oil, earthnut oil, is the edible oil obtained from the peanut (*Arachis hypogaea* L.).

Poppy seed oil is the edible oil obtained from the seeds of the poppy (*Papaver somniferum* L.).

Rapeseed oil, rape oil, colza oil, is the edible oil obtained from the seed of the rape plant (*Brassica napus* L.), or from the seed of closely related *Brassica* species, which yields oils similar in composition and character to the oil obtained from the seed of *Brassica napus* L.

Soy bean oil, soy oil, soja oil, is the edible oil obtained from the seed of the soy bean plant (*Glycine soja* L., *Soja hispida*, Sieb et Zucc., *Soja max.* (L.) Piper).

Sesame oil, gingili oil, teal oil, benne oil, is the edible oil obtained from the seed of the sesame plant (*Sesamum indicum*, De Candolle, *Sesamum radiatum*, Schum and Thonn, *Sesamum orientale* L.).

Sunflower oil is the edible oil obtained from the seed of the sunflower (*Helianthus annuus* L.).

OBITUARY.

WILLIAM CHARLES ALPERS.

By the passing away after a lingering illness of William C. Alpers, ex-President of the American Pharmaceutical Association, on February 20, 1917, at Cleveland, Ohio, not alone the pharmaceutical but the related professions have suffered a great loss. It was a sad ending of a brilliant and very promising career.

Dr. William C. Alpers was born at Hanover, Germany, on July 7, 1851. He attended the gymnasium and the Technical High School of his native city, where he completed his preparatory studies and afterward entered the University of Göttingen, specializing in natural sciences and mathematics. His studies were interrupted by the Franco-Prussian War in 1870, in which he took part and was decorated with the Iron Cross. After the war he came to the United States, and for nearly ten years was active as a teacher at the St. Matthews Academy of New York. He was a student at the New York College of Pharmacy and also took a course in chemistry at the New York University and was awarded the degree of Doctor of Science.

In 1881 Dr. Alpers opened a pharmacy in Bayonne, New Jersey, where he remained until the year 1898. Becoming a member of the New Jersey Pharmaceutical Association, he was elected its president in 1896. In 1890 he joined the American Pharmaceutical Association and was elected chairman of the Scientific Section in 1896, First Vice-President of the Association in 1903, chairman of Section on Practical Pharmacy and Dispensing in 1906 and chairman of the Historical Section in 1913. In 1914 he was elected president of the American Pharmaceutical Association and occupied the chair at its 64th Annual Convention held at Atlantic City, September 5-9, 1916.

Moving from Bayonne to New York City,

Dr. Alpers conducted the Merck Pharmacy and later on the Alpers Pharmacy at Broadway and Thirty-first Streets, until 1905, when he retired from business. He was a member of the Committee of Revision of the United States Pharmacopoeia and chairman of the sub-committee on Syrups and Elixirs. He also served three terms as a trustee of the New York College of Pharmacy until he received a call as professor of pharmacy from the Western Reserve University School of Pharmacy, of Cleveland, Ohio, of which he was Dean. This position he occupied until shortly before his death.

When the American pharmacists made a tour of Europe in July, 1914, he acted as chairman of the Tourists' Committee and was a readyspokesman whenever the occasion required an eloquent speaker, which all participants of the memorable trip will acknowledge and remember.

Dr. Alpers was also a very brilliant writer and the author of many valuable contributions to pharmaceutical literature; among his books are two published by the J. B. Lippincott Co.; "The Medicinal Plants of Staten Island" and "The Pharmacist at Work." For many years he was on the

editorial staff of the *Deutsch Amerikanische Apotheker Zeitung*.

Dr. Alpers was twice married. Besides his widow he leaves two sons, both graduates in pharmacy of the New York College of Pharmacy, William H. Alpers, of Los Angeles, California, and Otto Alpers, of Brooklyn, and four daughters by his first marriage.

The obsequies took place at the chapel of the New York Bay Cemetery, Jersey City, N. J. Rev. Paul Lemke, of Passaic, delivered a very impressive review of the deceased's remarkable career.

The funeral was largely attended by rel-



WILLIAM CHARLES ALPERS
Sixty-Third President American Pharmaceutical Association

atives and friends. There were many floral tributes, among them a beautiful wreath of lilies and violets from the Western Reserve University School of Pharmacy, Class 1917; another from the German Apothecaries Society of New York, and a large number of individual floral offerings. Among the pallbearers were President Robert S. Lehman, Emil Roller and George Bruns, of the German Apothecaries Society. The American Pharmaceutical Association was represented by President-Elect Charles Holzhauer, ex-Presidents H. H. Rusby, Caswell A. Mayo and E. G. Eberle; the Columbia University College of Pharmacy by Dean Henry H. Rusby, and the New Jersey State Board of Pharmacy by F. A. Bongartz. Among others present were Charles W. Holzhauer and E. A. Sayre.

"Death is the liberator of him whom freedom cannot release, the physician of him whom medicine cannot cure, and the comforter of him whom time cannot console."—*Colton*.

HUGO KANTROWITZ.

(Other sketches of the deceased may be found in Vol. III, p. 1722, and Vol. IV, pp. 1014, 1086, of the JOURNAL A. PH. A.)

IN MEMORY OF WILLIAM C. ALPERS, EX-PRESIDENT A. PH. A.

H. H. RUSBY.

America had few, if any, more earnest advocates of all that was best in pharmacy, or more enthusiastic workers for its promotion than Dr. Alpers. I can not recall ever having met him in private conversation that he did not at once or very shortly introduce this subject. He was an earnest student of both the theoretical and practical divisions of the subject, and an intelligent coördinator of the two. He was not only far-sighted in appreciating the greater practical capacity of the man who was well grounded in fundamental theory, but possessed a keen appreciation of the advantages to the profession of having a really educated membership. He improved himself as he sought to improve others. His beginning in American pharmacy was of a low order as to preparation and personal equipment, but he started at once on a career of self-improvement, in which he never rested or wearied until he had qualified himself for the highest honor in the possession of the profession in America to bestow.

In his professional work he practiced what he preached, the strictest adherence to prin-

ciples of honesty and professional honor. It is not likely that any living person can point to a slip of his in the discharge of either obligation. Now that he is gone, everyone who was familiar with these precepts and this example will gratefully treasure the memory.

It was in his educational work that Dr. Alpers exhibited his best and most characteristic self. He was foremost among American teachers in his exhibition of fidelity, earnestness and industry, as seen in his work at the Cleveland School of Pharmacy. We recognize in his work rare qualities of a teacher, and are happy in the belief that to others who know of it, it proved, and will continue to prove, a strong inspiration to do the best in their own fields of service. Such assistance they can well receive even while noting some features in the work of their deceased associate, as is true of that of all, that might be improved upon.

Thus, as has been said of so many noble workers in our profession who have fallen out of the ranks in recent years, the good that Dr. Alpers has done shall live after him.

J. U. LLOYD.

Your card is the first advice I have received concerning the death of Dr. Alpers. This event I very much lament, because of the good work he aimed to accomplish in pharmacy, his aggressive processes in what he believed to be best for pharmacy, and his scientific ability united therewith.

For several decades I have known Dr. Alpers, have enjoyed visits with him in pharmaceutical meetings, and journeyed with him on excursions connected with these meetings, and on these occasions I always found occasion to admire his enthusiasm in the direction of botanical, pharmaceutical and chemical problems that were continually appearing during such opportunities for personal contact. The passing of Dr. Alpers impresses me anew with the continually recurring similar events, that indicate to me that personal companionships I have enjoyed in pharmaceutical meetings, are with me fast becoming reminiscences of the past. However, the faces and personalities of these long-time friends are no less real to me now, than in the days when they were present in our society.

JOSEPH L. LEMBERGER.

The death of our late friend, Dr. Alpers, was a great shock to me, as I had not learned of his serious illness.

Dr. Alpers was a man of more than ordinary ability and his advancement to positions of responsibility is an evidence of his merit. He had a personality peculiar to his native endowment and always possessed the courage of his convictions and, whether right or wrong, had the ability to defend his views.

I regret most sincerely that death claimed him at this time. His wife and family certainly have the sympathy of those associated with him in the American Pharmaceutical Association, and with one heart and soul, we say, "Requiescat in pace."

JOSEPH P. REMINGTON.

The death of William C. Alpers must have come as a shock to his friends. While it has been known that he was in precarious health for the last year, few of his friends realized that he was nearing the end.

Professor Alpers was ambitious to bear his full share of responsibility in matters pharmaceutical and he did not shirk any duty that he realized was his. He was an idealist and a most energetic worker. He was a forceful speaker with the gift of language and the ability to express his views clearly. He was courageous and never hesitated to "speak out in meeting." He cared very little for the opinions of the majority, and such men are rare. The painful malady with which he was afflicted undoubtedly influenced his judgment at times, but his earnestness and faithfulness to his ideals will cause the name of William C. Alpers to be remembered by the members of the American Pharmaceutical Association for many years.

J. W. ENGLAND.

I am very sorry to learn of the passing of William C. Alpers. He was one of the "war horses" of the American Pharmaceutical Association and he will be missed. Joining the Association twenty-seven years ago, he became an "active member" in deed as well as in name. Critical, observant and aggressive in fighting for what he believed to be the right, he was, also, a dreamer. He never lost the martial spirit of his early training in the Franco-Prussian War and he never lost the visions of his manhood. He was preëminently a teacher, educator, historian; and a ready and voluminous writer. The influence of his work will remain through the years to come.

I have said that he was a dreamer, using

the word in no sense by way of reproach, because the dreams of men make the deeds of men possible. Without vision no one can see the light. I recall the beautiful word-picture he painted several years ago in the JOURNAL on "Fields and Woods in June," and think how typical his story is. He wrote, in part:

"In our enjoyment of the beautiful June air we do not notice that the sun is going down; the shadows of the trees grow longer and the enchanting charm of the forest twilight gradually surrounds us. We know that it is time to leave the woods, as we might lose our way if total darkness befalls us here; and yet we linger, drawn back by the hands of fairies and sylvan spirits. Here and there a sudden light flares up. Fireflies have lit their candles and show us our way—the first announcers of the concert that is to come. They arranged the notes and instruments. Here and there a chirp, a rasp is heard, like the tuning of the string before the real performance begins. Everything is ready and full of inspiration drawn from the beautiful June night, the thousands of nocturnal choristers of the grass sing without end; each in itself perhaps without account and not much to listen to, but the blending is restful and charming and almost overwhelming.

"And now comes the soloist of the orchestra, a tree toad, that sings its note with a serious deep voice, but full of enthusiasm. The chirping of the bugs is more than a summer's monotonous lullaby, it becomes the musical background of a more skilled performer and assumes a new higher quality. Suddenly the soloist ceases and it appears as if everybody was quiet; the solemnity and grandeur of a June night seems for a moment to overpower all the other charms. Then he begins again and anew the little buzzers and chirpers intonate their songs.

"As we listen in rapture we try to analyze the performance and identify the individual performer, the cricket, the grasshopper, the locust, the golden beetle and others. But we fail in our task and wearily close our eyes, not to sleep, but to relax into a sweet vagrant reverie. Dream pictures appear before us as from the embers of an open fireplace in midwinter. Sweet recollections of our childhood and scenes of days long past and almost forgotten arise in our minds, and the untiring song of nature recalls the harmonies of a Beethoven sonata or Liszt's rhapsody to our ears, when, in the circle of a contented family,

we mused in the twilight while a beloved one, long departed, gently touched the keys with magic finger."

And so it is with human life. We are born. We live and move and have our being. We dream our dreams and have visions. We do our little bit of work for Nature and Nature's God. And then comes—peace.

E. G. EBERLE.

"Death is capricious in his exactions, but at last everyone must obey his summons."

The American Pharmaceutical Association has rarely met, if ever, without having to regret the loss of some of the membership, for whom death has opened the gateway through which all pass out of this life into that which lies beyond. And so, while the death of ex-President, William C. Alpers, was not unexpected by those who knew of his condition, it, nevertheless, comes as a great shock. Dr. Alpers had not been a well man for a year or more; the more acute condition began to develop last summer and the seriousness was fully recognized soon after his return to Cleveland from the Atlantic City meeting.

The acquaintance of the writer with the deceased is largely that of a member of the Association and as a contributor to the JOURNAL. During his year as President of the American Pharmaceutical Association, he contributed quite a number of articles and all of them show his deep interest in pharmacy as a profession, and quite naturally, among the qualities that were impressed on the writer are those of splendid command of language which he was able to make use of in speech as well as diction. His work has impressed the American Pharmaceutical Association and pharmacy in general. The sympathy of the American Pharmaceutical Association goes out to those who have been bereaved of a loving father and husband, while lamenting the loss of a very active member.

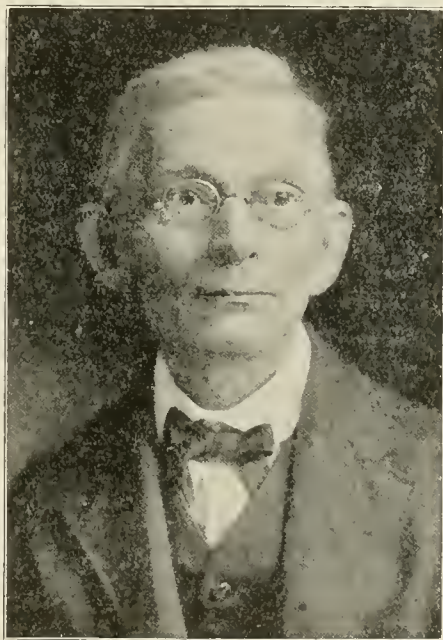
JOHN FREDERICK LLEWELLYN.

J. F. Llewellyn, life member of the American Pharmaceutical Association, died at his home in Mexico, Mo., January 25th, following an attack of heart disease. Mr. Llewellyn had not been in the best of health for some time but his sudden death came as a great shock to his family and fellow citizens.

The deceased was a native of Kentucky, born in Louisville, September 13, 1845. His

parents were Robert Llewellyn and Abbie Knott Llewellyn, natives of England. Mr. Llewellyn was a lineal descendant of Llewellyn ap Gryffydd, the last Welsh prince who fought to establish independence for Wales. He was also related to Robert Peel, British Premier, and John Bright, Speaker of the British House of Commons.

Mr. Llewellyn received his early education in the public schools of Louisville, and his first engagement in the drug business was with the Louisville Chemical Works. He afterwards engaged with George H. Carey, with whom he remained for seven years. In 1867



JOHN FREDERICK LLEWELLYN

he came to Mexico and established a drug business which is now continued by his sons. His sterling qualities as a man, as well as his personal popularity, not less than his thorough knowledge of pharmacy and strict attention to business built up his successful business.

Mr. Llewellyn always took an intelligent and public-spirited interest in the general affairs of his home city and manifested a great zeal for its advancement and improvement. October 2, 1879, he was married to Miss Callie Duncan, of Mexico, who survives him. He leaves three sons, Henry D., Frederick W. and R. Merrit; and one daughter,

Mrs. Abbie Snoddy. The sons were associated with the father in business and will continue the store, and one of them writes that the store will not only be continued under the same name as heretofore, but conducted along the same lines established by his beloved father.

Mr. Llewellyn was a life member of the Missouri Pharmaceutical Association and served as president of that organization. He was a regular contributor to the Proceedings of that Association and quite frequently of the American Pharmaceutical Association, his subjects always being along the lines of historical pharmacy and medicine.

Mr. Llewellyn was interested in a number of enterprises of his home city and active in the various Masonic bodies. The local paper referred to the deceased as the best known citizen of Mexico. Mr. Llewellyn was a great lover of art and music and had collected a very extensive library. The thorough use of the latter is indicated by his many contributions. The high regard in which he was held was evidenced by the large attendance of the funeral services in the Presbyterian Church, of which he was an honored member and elder.

CYRUS JOSEPH LAMMERT.

Cyrus J. Lammert, a member of the Cincinnati Branch, A. Ph. A., was born in Cincinnati, April 27, 1861. He attended the public schools here, and graduated from St. Xavier College. He went into business for himself at the age of 27, having purchased the drug store at the corner of Fourth and

Smith Streets, in 1881. He conducted this store for a number of years with success. After selling this, he bought the drug store at the corner of Fifth and Main Streets, which he sold a number of years later and then again located at Park avenue and McMillan Street, Walnut Hills.

Each one of these stores he conducted with considerable financial gain, and after disposing of the store at Park Avenue and McMillan Street, retired from business. He then made an extended tour of Europe, but, upon his return to Cincinnati, concluded that he was too young to retire; and anyhow "Joe" Lammert was one of those intense, high-strung sort of fellows, who could not be satisfied, if idle. He therefore connected himself with the Stein-Gray Drug Co. and had charge of their city business as long as this concern remained in business; thereafter he became manager of the Cincinnati branch of the Bishop-Babcock-Becker Co., manufacturers of soda fountains. After several years in this position, this company abandoned their branch office, whereupon Mr. Lammert purchased the drug store at the corner of Burnet and Albany Avenues, Avondale, and after conducting same for about two years, he sold it and became assistant manager of the Cincinnati Economy Drug Co., the position he held until his death. He graduated from the Cincinnati College of Pharmacy in 1882.

"Joe" Lammert passed away the 13th of February, and the funeral services were held at the Cincinnati Crematory, February 15, 1917.

CHARLES A. APMEYER.

SOCIETIES AND COLLEGES.

NEXT ANNUAL MEETING OF NATIONAL ASSOCIATION OF RETAIL DRUGGISTS.

Plans for the next annual convention of the National Association of Retail Druggists, to be held in Cleveland next September, have already been made by the local organization. The Hotel Hollenden, most centrally located hostelry in Cleveland, has been obtained for the sessions and the Drug Show to be held in conjunction with the event. Two large ball-rooms, which can be made into one, will house the show. Other details will be worked out at future meetings of the local association.

COMMITTEES OF THE DRUG TRADE SECTION NEW YORK BOARD OF TRADE AND TRANSPORTATION.

The committees for 1917 of the Drug Trade Section, New York Board of Trade and Transportation, have been announced as follows:

Membership Committee.—Frank C. Starr, Stanley P. Jadwin, E. C. M. Kemp, Frank L. McCartney and Edward Plaut.

Committee of Jobbing Druggists.—William P. Ritchey, *chairman*, and one representative from each jobbing house in the drug trade section.

Committee on Legislation.—H. C. Lovis,

Thomas F. Main, William Jay Schieffelin, Charles S. Little and Jacob Weil.

Committee on Arbitration.—I. Frank Stone, S. W. Fairchild, Herbert B. Harding, Oscar W. Smith and C. F. Butz.

Committee of Importers of Drugs and Chemicals.—Franklin Black, C. P. Schlicke, George Simon, Charles A. Loring and August A. Wasserscheid.

Committee of Manufacturing Pharmacists.—H. R. Planten, L. N. Upjohn, Charles Lamont, Edward Zink and Mr. Parry.

Committee of Importers of Essential Oils.—Joseph Mathias, C. Beilstein, Carl Vietor, C. B. Layton and O. A. Brown.

Committee on Tunes.—Irving McKesson, William Archibald, M. J. Breitenbach and Mr. Essig.

RESOLUTIONS UPON THE DEATH OF M. I. WILBERT, OF THE NATIONAL DRUG TRADE CONFERENCE.

At the annual meeting of the National Drug Trade Conference, held in the City of Washington on January 16, 1917, there was passed a resolution appointing the undersigned committee to draft suitable resolutions upon the death of Martin I. Wilbert, who although not an official delegate to that Conference, nevertheless, met with its members at all their meetings since its organization as a representative of the Bureau of Public Health and Marine Hospital Service.

Being deeply impressed with the feeling that Martin I. Wilbert was one of our best friends, was a splendid type of man in every respect and a real well-wisher and helpful, confiding friend of the drug trade of the country, and of this Conference in particular, which caused him to give it his enthusiastic and wholehearted support for the betterment of the conditions of the drug trade and of all his fellow-citizens as beneficiaries of that trade, we esteem it a great privilege to enroll upon the records of the National Drug Trade Conference the following expressions of our high regard for him as a man, a pharmacist and a friend and of our great regret and profound sorrow at his far too early removal by death from our midst and from the many sincere friends which his helpful, willing and highly capable life had so much benefitted:

WHEREAS, it has pleased Almighty God to take from our midst our esteemed and devoted friend and fellow worker, Martin I. Wilbert, and

WHEREAS, we, the members of the National Drug Trade Conference, feel that we have thereby lost a staunch friend, a capable, talented and willing coworker with us for the lasting betterment and advancement of the pharmaceutical profession of the country and a devoted protagonist of the highest principles and ethics of that profession; and

WHEREAS, we further desire to make known to his friends and family the high regard in which we held him and the great loss which we feel the pharmaceutical profession has sustained through his premature demise; now therefore be it

RESOLVED, that we hereby give expression to our sorrow at his untimely end, our high appreciation of his many sterling qualities that endeared him at all times to us and our heartfelt sympathy to his family and to all those who sincerely and truly mourn his loss; and be it further

RESOLVED, That a copy of these resolutions be made a part of the minutes of the proceedings of the National Drug Trade Conference of January 15, 1917, and that a further copy be sent to his family.

Respectfully submitted.

(Signed) ALFRED R. L. DOHME,
Chairman.
S. L. HILTON,
J. H. BEAL.

AMERICAN DRUG MANUFACTURERS' ASSOCIATION.

The Medicinal Manufacturers' Association, which sat down to its Sixth Annual Meeting at the Waldorf-Astoria, February 6, as the National Association of Manufacturers of Medicinal Products, arose from its last session, February 7, as the American Drug Manufacturers' Association, the name by which it will be known henceforth.

In the interval, it provided for two notable movements of practical scientific interest; adopted a constructive program on the narcotic situation; renewed its membership in the National Drug Trade Conference and the United States Chamber of Commerce; endorsed one-cent letter postage, compulsory arbitration in railroad disputes and the candidacy of Ellwood Hendrick for the Tariff Commission; and passed resolutions condemning government opposition to Scientific Management, advocating a wider and more equitable distribution of Federal taxes, and commending the Pan-American Trade-mark Registration

idea and the International Trade-Mark Bureau established at Berne, Switzerland.

It also elected the following officers for the ensuing year: *President*, Chas. J. Lynn, of Indianapolis; *Vice-President*, R. C. Stofer, of Norwich, N. Y.; *Treasurer*, Franklin Black, of New York City; *Secretary*, W. J. Woodruff, of Detroit. The Executive Committee will be composed of these officers and Dr. A. R. L. Dohme, of Baltimore, B. L. Murray, of Rahway, N. J., and C. M. Woodruff, of Detroit.

In addition to the regular sessions of the Convention and a special meeting at which a Biological Section was organized, scientific experts from nearly all the firms of the membership assembled and adopted a plan of co-operative investigation that Professor Rusby predicted would rank as one of the most valuable works ever undertaken in pharmacy. Under a control committee of five to be known as the Committee on Standards and Deteriorations, a larger committee composed of one expert from each house will undertake to determine whether or not a uniform rate of deterioration can be established for a given product and whether or not it is practical to fix standards for preparations that will be least subject to deterioration.

To this body was also assigned the stupendous task of compiling a synoptical genesis of the United States Pharmacopoeia and the National Formulary, showing the source of each preparation and the successive changes that have been made in the standards and tests for purity, strength and quality since the first editions.

As its program on the narcotic situation, the Association decided to urge the National Drug Trade Conference to call a conference of delegates from all organized agencies interested in the solution of the problem, including organizations of government officials. This larger conference, they propose, shall then determine what amendments are necessary to strengthen the Harrison Act, and also draught a model state law that will effectively supplement it.

Under the greetings from kindred Associations that featured the first session, Prof. Arny, speaking in behalf of the American Conference of Pharmaceutical Faculties, urged the value of Industrial Fellowships, in which he suggested that the manufacturer turn over research problems to the college to be worked upon by a selected graduate at the expense of the manufacturer, while Prof.

Rusby, who represented the A. Ph. A., dealt ably with inconsistencies of the United States Pharmacopoeia, illustrating his remarks by several striking examples. In his address, President Lynn recommended the support of the Association to President Wilson's railway program, proposed the narcotic program adopted by the Association and urged strong action on the opposition of Congress to scientific management. The Secretary's report urged the necessity of more constitutional treatment for the evil conditions that are affecting the drug trade. At the banquet, Major-General Wood delivered a notable talk on the stimulation to medical discovery occasioned by war. He quoted a number of examples from the Spanish-American War and stated that the success of the Panama Canal is as much attributable to these discoveries as to any other factor.

The American Drug Manufacturers' Association will enter on its sixth year with forty-two members, seven applicants having been admitted to membership at this meeting: Davies, Rose & Co., of Boston; The Digestive Ferments Co., of Detroit; Harshaw, Fuller & Goodwin Co., of Cleveland; Hynson, Westcott & Dunning, of Baltimore; Lloyd Brothers, of Cincinnati; The New York Quinine & Chemical Works, of New York City, and the Tailby-Nason Co., of Boston.

MINNESOTA PHARMACEUTICAL ASSOCIATION.

A partial program of the Thirty-third Annual convention of the Minnesota Pharmaceutical Association was presented in the last issue of the JOURNAL, page 218.

The meeting was a success in every way and one hundred and fifty new members were added to the roll of membership. Among the visitors from other states were Prof. Henry Kraemer, of Philadelphia; President Binz, of the California Pharmaceutical Association; W. S. Parker, Secretary of the North Dakota Board of Pharmacy, and Thomas H. Potts, of the National Association of Retail Drug-gists.

President John F. Danek, in his address, recommended that the publicity work be continued on the same plan as during the year past; the work of the Legislative Committee was commended; price maintenance measures were advocated; trading stamp and coupon methods were disapproved; and a closer co-operation between pharmacists and physi-

cians was advised. The Association went on record in favor of establishing a scholarship each year for one student at the College of Pharmacy of the University of Minnesota, this scholarship to be given to a second-year student who had shown his ability during the first year.

Secretary E. L. Newcomb, in presenting his report, stated that over 60 percent of all the pharmacists of Minnesota now belonged to the Association. Approximately twenty thousand letters have been sent out from his office during the year. He also referred to the printed Proceedings of various state associations that were being bound for preservation by the Association.

The Treasurer's report showed that the affairs of the Association were in good financial condition. The work of the Association is divided into sections and in each of these there were many interesting papers. Accompanying a paper by Prof. E. L. Newcomb before the Scientific Section, on "A New Source of Supply for Ergot," was an exhibit consisting of different samples of waste cereals containing from seventeen to eighteen percent select Ergot, which the speaker stated was the equal in pharmaceutical quality to that which was imported from Spain and Russia. It has not come into general use on account of the difficulty in mechanically separating it from the cereal.

Prof. Henry Kraemer delivered an illustrated lecture on "Pharmacognosy in Its Relation to the Practice of Pharmacy," dwelling upon the relation of pharmacognosy to the study of raw materials and products manufactured from them. He pointed out the difference between pharmacognosy and materia medica, both in the subjective treatment and the objects to be obtained in the respective sciences. He stressed the fact that pharmacognosy is an active discipline and concerned with the solution of every-day problems and the producing of tangible results. He showed how the retail pharmacist could apply this professional knowledge to make himself more valuable to the public and himself. The slides used by Prof. Kraemer and prepared by him are divided into two classes, those dealing with the identification and determination of the quality of commercial drugs and allied products and those dealing with the determination of the composition of complex commercial products. In connection with the latter, he made a number of valuable suggestions

of opportunities to the pharmacist in the manufacturing line.

NEW OFFICERS FOR 1917-18.

The following officers were elected for the ensuing year: *President*, Louis J. Aberwald; *Vice-President*, Charles MacGregor, Detroit; *Second Vice-President*, Edward A. Grochen, Duluth; *Third Vice-President*, W. C. Haney, Marshall; *Secretary* E. L. Newcomb; *Treasurer*, R. J. Messing; *Member Executive Committee*, J. F. Danek.

The following were nominated for the State Board of Pharmacy: Arthur von Rohr, Max Menzel, R. J. Messing, M. G. Johnson and R. E. Desmond.

The Minnesota Prerequisite Bill was approved by the Association and is printed under "Pharmacist and the Law."

COLLEGE OF JERSEY CITY.

Just 100 years ago, in 1817, Selenium was discovered by Jons Jakob Berzelius, the great Swedish chemist, who enriched chemistry with so many important discoveries and who is the father of our present system of chemical nomenclature.

This event was duly celebrated at the College of Jersey City on Wednesday evening, February 7, by a lecture on "Centenary of the Discovery of Selenium and its Use in Pharmacy, Medicine and Industry." This lecture was delivered by Friedrich Klein, Ph.D., Director of the Chemical Laboratory at the College, who has made Selenium a life long study. Dr. Klein gave the origin of the name, from the Greek "selenē," meaning "moon," and also its discovery. Selenium was first observed as a red powder deposited in the lead chambers used in the manufacture of sulphuric acid at Gripsholm, Sweden.

The lecturer also called attention to the valuable uses of selenium, in pharmacy, medicine and industry. One of its principal applications, which has been brought forth of late, is its use in the treatment of malignant growths or "cancer." Dr. Klein illustrated his lecture with numerous demonstrations.

The lecture was well attended by students of the College of Jersey City, by members of the Alumni Association, by the faculty and by the members of the pharmaceutical, medical and dental professions. A lively discussion followed the lecture and Dr. Klein was given a rising vote of thanks.

UNIVERSITY OF ILLINOIS.

A meeting of the executive committee of the Alumni Association of the University of Illinois School of Pharmacy was held at the college building February 14. The treasurer reported a balance of \$642.00 in the Alumni Ebert Scholarship Fund, and the committee unanimously decided to collect outstanding pledges and enough new subscriptions to bring the sum up to \$1,000.00, the interest on which would be given yearly as a prize to the student graduating with the highest general average.

President Leo L. Mrazek announced that, moved by a spirit of loyalty and good will toward his Alma Mater, he would give \$25.00 each year to the student attaining the highest average in chemistry. With the \$25.00 prize which Mr. Andrew Scherer gives to the student standing highest in pharmacy, the microscope awarded annually by Mr. Herman Fry for excellence in materia medica, and the proposed Ebert prize for general average, this offer of Mr. Mrazek furnishes the school with a prize for each department.

The Secretary announced that in view of the fact that 1917 is the 25th anniversary of W. B. Day's graduation from the school, and a like time since he first became associated, as an officer, with the school, that a number of people had broached the subject of a reception. With unanimous consent it was decided to hold a "W. B. Day Testimonial Dinner" on June 6, that men from every branch of pharmacy, wholesale, retail, the teaching profession and especially the Illinois and American Pharmaceutical Association be invited to attend the dinner, and do honor to the man who has served so faithfully the pharmaceutical profession. The Alumni Association offered to finance and direct the project, with the President and Secretary in direct charge.

MASSACHUSETTS COLLEGE OF PHARMACY.

The annual meeting of the Alumni Association of the Massachusetts College of Pharmacy for the election of officers was held at the Crawford House, January 17, 1917. Dinner was served and the business meeting followed. President H. H. Smith presided.

That the work of the officers for the past year has been appreciated by the Association,

was shown by the re-election of the entire staff. They are as follows:

President, H. H. Smith, M.D.; *Vice-Presidents*, J. E. Stacey, Jennie E. Sumner and A. M. Dupaul; *Secretary*, George L. Burroughs; *Treasurer*, Leon A. Thompson; *Auditor*, E. H. LaPierre.

F. F. Ernst was elected member of the council. The members of the graduating class of 1916 were made active members of the Association and H. A. Winn was elected to associate membership. The name of J. J. Tobin of the State Board of Pharmacy was proposed for honorary membership.

The President's address contained a résumé of the activities of the Association for the past year and was notable for its interest, the broad scope of the matters discussed, and for the excellence of the recommendations which it contained.

Action was taken regarding the banquet complimentary to the graduating class to be given on May 22, and also regarding the entertainment to be provided at the annual meeting of the Massachusetts Pharmaceutical Association to be held in June. It was decided to continue the series of scientific meetings and to give them wider publicity. Committees were appointed to consider ways and means of equipping the alumni room in the new college building and to determine the part which the Association will play in the dedication exercises.

The advisability of appointing a legislative committee was discussed as was also the possible effects upon doctors and pharmacists of the social insurance bill now before the legislature.

ST. LOUIS COLLEGE OF PHARMACY.

The course of special lectures to students of all classes organized at the St. Louis college last autumn was continued on January 10, when Mr. Oscar G. Salb, a graduate of Purdue University and at present active in biological research in St. Louis, delivered an evening lecture on "Physiological Testing of Drugs on the Lower Animals," illustrated by practical demonstrations. Aconite, cannabis indica, ergot, and digitalis were the drugs selected, and their action was shown by experiments so carefully selected that the audience readily grasped the principles underlying their application.

On January 25 a visit was paid to the Mis-

souri Botanical Garden under the guidance of Professor Hemm and Associate-Professor Suppan, fifty-eight members of the classes being present. The visitors were so fortunate as to secure the services of Mr. G. A. Pring, superintendent of the collection of orchids and other exotics at the garden, who showed them the general arrangement of the various departments and pointed out a number of plants of

medicinal and economic interest. The expedition was chiefly of an explanatory nature, to enable the students to find the position of any particular medicinal plant or plants which they might desire to study in the growing state. At a later date when the weather becomes favorable for the outside growing of plants, another visit will be made to the garden.

THE PHARMACIST AND THE LAW.

MINNESOTA PREREQUISITE BILL.

A Bill for an Act, to amend Section 2330 of the Revised Laws of 1905, as amended by Chapter 346, Laws 1907, being Section 5032 General Statutes, 1913, relating to qualifications entitling Pharmacists to registration.

Be it Enacted by the Legislature of the State of Minnesota:

Section 1.—That Section 2330 of the Revised Laws of 1905, as Amended by Chapter 346, Laws 1907, being Section 5032, General Statutes, 1913, be amended so as to read as follows:

5032.—To be entitled to examination by the Board as a pharmacist, the applicant shall be at least twenty-one years old, shall have successfully completed the work of two (2) college years, of not less than seven (7) months each, at a college or school of pharmacy, which, in the judgment of the Board, maintains proper standards, as such, and shall have had at least two (2) years of practical experience in drug stores where physicians' prescriptions are usually compounded; provided, however, that if the applicant shall have successfully completed a longer course than two (2) college years, of seven (7) months each, in such school or college of pharmacy, an additional year, or more, so successfully completed, shall be equivalent to one (1) year of such practical experience.

Provided that, any person, who is, at the time of the passage of this amendment, actually employed in a drug store, who shall on or before the first of October, 1917, file with the Board a sworn statement of proof of that fact, or who is registered by said Board as an assistant pharmacist, shall be exempt from the requirement of attendance at a college or school of pharmacy, but shall be entitled, if of the required age, to examination

upon the completion of four (4) years' experience, as the same is herein defined, provided further; that one (1) year of college work, as herein defined, shall be equivalent to one (1) year of experience. If upon examination the Board finds him qualified, he shall be entitled to registration as such pharmacist.

Section 2.—This Act shall take effect and be in force from and after its passage.

HEAVY FINE ASSESSED AGAINST SARGOL SELLERS.

According to a report from Auburn, N. Y., February 17, Wylie B. Jones and Herbert E. Woodward, both of Binghamton, found guilty in United States Court for fraudulent use of the mails in selling sargol, an alleged "flesh producer," were sentenced by Judge George W. Ray to pay fines aggregating \$30,000. The defendants announced that they would waive all appeals and paid their fines promptly.

Jones paid \$20,000 and Woodward paid \$10,000, and both were discharged. The trial lasted thirteen weeks.

DRUGGIST FINED FOR USING LICENSE OF ANOTHER.

Pleading guilty to the indictments against him, Edward Smith, of Philadelphia, was fined \$50 by Judge Wessel, in Quarter Sessions Court, for practicing pharmacy without a license or being registered. Smith was placed on probation for a year. Assistant Attorney-General Joseph L. Kun, representing the State Pharmaceutical Board, stated that Smith had used the certificate of a dead pharmacist to get positions with drug stores as a qualified assistant.

JOURNAL OF THE

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of change of address is received before shipment or mailing.

Both the old and the new address should be given thus:

HENRY MILTON,
From 2342 Albion Place, St. Louis, Mo.
To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

CHANGE OF ADDRESS SINCE JANUARY 18, 1917.

ALSBERG, C. L.

From 3443 Fourteenth St., N. W., Wash-
ington, D. C.,
To Cosmos Club, Washington, D. C.

GILBERT, C. T.

From cor. Conn. Ave. & Boardwalk, At-
lantic City, N. J.
To 20 E. North Ave., Atlanta, Ga.

NEVIN, THOS.

From 35 W. 33rd St., New York, N. Y.
To 18-20 E. 41st St., New York, N. Y.

PLACAK, HARRY.

From 3039 Woodland Ave., Cleveland, Ohio.
To 3625 Woodbridge Ave., Cleveland, Ohio.

SIMPSON, ROBERT,

From 201 N. 36th St., Philadelphia, Pa.
To Race & 36th St., Philadelphia, Pa.

HEMM, FRANCIS,

From 3854¹/₂ Arsenal St., St. Louis, Mo.
To 2108 Locust St., St. Louis, Mo.

PRATT, J. W.

From cr. Welsh's Drug Store, Milton, Mass.
To cr. Durgin's Pharmacy, Inc., Winchendon,
Mass.

LILLY, J. K., JR.,

From 1704 N. Penn. St., Indianapolis, Ind.
To 1044 N. Delaware St., Indianapolis, Ind.

LICHTHARDT, G. H.,

From 1800 M. St., Sacramento, Cal.
To Box 510, Sacramento, Cal.

MARTIN, A. E.,

From P. O. Box 534, Rome, Ga.
To Box 242, Macon, Ga.

PUTT, EARL B.,

From 641 Washington St., New York, N. Y.
To 1034 Oak Hill Ave., Youngstown, Ohio.

WATSON, G. N.,

From 1001 Maine St., Lawrence, Kans.
To 1009 Maine St., Lawrence, Kans.

BLOCH, J. M.,

From 1570 St. Johns Pl., Brooklyn, N. Y.
To 1308 Prospect Place, Brooklyn, N. Y.

BRATTER, B.,

From 1204 Evergreen, Bronx, New York,
N. Y.
To 841 Jennings St., Bronx, New York, N. Y.

DE YONCKHEERE, J. F.,

From 455 Van Dyke Ave., W., Detroit, Mich.
To 438 Van Dyke Ave., W., Detroit, Mich.

MCCORMICK, P. J.,

From 1346 Mass. Ave., Cambridge, Mass.
To 27 South St., Brighton, Mass.

SCHAAK, M. F.,

From 108 Penn. St., Brooklyn, N. Y.
To 710 Victoria St., Corona, Cal.

DUNBAR, E. A.,

From U. S. Naval Station, Guantanamo
Bay, Cuba.
To U. S. Naval Hosp., Portsmouth, N. H.

HAESLER, L. M.,

From 1947 W. Madison St., Chicago, Ill.
To 1959 W. Madison St., Chicago, Ill.

MOORE, W. I.,

From 566 Kearney St., San Francisco, Cal.
To 903 N. Electric St., Alhambra, Cal.

BRADLEY, J. F.,

From 1443 Ogden Ave., Chicago, Ill.
To 104 S. Loomis St., Station C, Chicago,
Ill.

MCCARTNEY, F. L.,

From cr. Sharp & Dohme, 41 John St., New
York, N. Y.
To 154 W. 18th St., New York, N. Y.

SMITH, GUY L.,

From Juneau, Alaska.
To opposite Post Office, cr. Guy's Drug
Store, Douglas, Alaska.

DECEASED SINCE JANUARY 18, 1917.

LACHAPPELLE, A. J., Turners Falls, Mass.

LLEWELLYN, J. F., Mexico, Mo.

TRANSFERRED FROM REGULAR MEMBER TO DUES ONLY.

BAUM, WM. F., 318 Vermillion St., Danville, Ill.
 MAJOR, A., 461 Pearl St., New York N. Y.

TRANSFERRED FROM DUES ONLY TO REGULAR MEMBER.

SCHUH, P. G., 607 Commercial Ave., Cairo, Ill.
 PEACOCK, B. L. (MRS.), 3701 Germantown Ave., Philadelphia, Pa.

WAR DEPARTMENT.

List of changes of station during the month of February 1917 in the cases of Sergeants, First Class, and Sergeants, Medical Department.

SERGEANTS, FIRST CLASS.

Rasmus P. Nelson, from Fort Screven, to Fort McPherson.

Meyer McC. Dougherty, from Fort McPherson, to Fort Screven.

Oscar Gabsch, from the Army Medical School, Washington, D. C., to Fort MacKenzie.

SERGEANTS.

Peter Pfranklin, from Columbus Barracks, to the Aviation School, Memphis, Tenn.

Frank C. Wagner, from on duty with the Ohio Militia, to duty at Ft. Benjamin Harrison.

Joseph H. Peberdy, from on duty in the Southern Department, to duty with the Ohio Militia.

TREATMENT OF BURNS WITH PARAFFIN.

Considerable attention has been directed to the method of Barthe de Sandfort for the treatment of burns. This consists of the application of a proprietary modification of hard paraffin known as "ambrine," which is sprayed in a melted state over the burn, and allowed to congeal. It has, undoubtedly, given most satisfactory results. The author found that these were due entirely to the physical properties of ambrine, the constitution of which is a trade secret, but which is probably hard paraffin modified by exposure to high temperature, such as that of superheated steam. Even better results than those obtained with "ambrine" have followed the use of an antiseptic base prepared as follows: Hard paraffin, 67, is melted, soft paraffin, 25, and olive oil, 5, are added. Resorcinol, 1, dissolved in a little alcohol, is then added, followed, when the mixture has cooled to about 55° C., by eucalyptus oil, 2. This is known as "No. 7 paraffin." Since resorcinol is now difficult to obtain, the formula may be modified thus: Beta-naphthol, 0.25; eucalyptus oil, 2; olive oil, 5; soft paraffin, 25; hard paraffin, 67-75. The burn is washed with sterile water and dried by placing a piece of dry gauze over the surface. Melted "No. 7 paraffin" at 50° C. is then gently brushed over the surface with a sterile broad camel-hair brush. The paraffin base melts at 48° C., so the necessary temperature for application may be taken at the point when a pellicle begins to form on the surface of the melted ointment. A spray may be used, but is unnecessary except in very painful burns. When set, the paraffin coating is covered with a thin layer of cotton. This cotton is treated with a second coating of "No. 7 paraffin," and then finished with the usual bandage. At first, the burns are usually dressed daily. Very septic lesions should be first cleansed with warm boric acid fomentations. The results obtained have been excellent. The treatment is equally efficacious for ulcerated frost-bite of "trenchfoot."—Lieut.-Colonel A. J. Hall (*B. M. J.*, 1917, 1, 37); through *Pharm. Journal*.

JOURNAL ANNOUNCEMENTS.

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THE JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

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AUGUSTUS GEORGE SCHLOTTERBECK
PORTLAND, ME.

Only living charter member of Maine Pharmaceutical Association, organized in 1867



A. G. SCHLOTTERBECK

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

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AUGUSTUS GEORGE SCHLOTTERBECK.

Augustus George Schlotterbeck was born in Birstein, Germany, January 25, 1844. When he was ten years old, his family emigrated to this country and, arriving in New York, they temporarily located on Long Island and afterwards came to Springfield, Mass., where the subject of this sketch attended school.

His mother having died in 1858, he went to live with his uncle, George Gemuender, the celebrated violin maker, in whose workshop he was employed until 1860, when he entered, as apprentice, the pharmacy of Gustave Vivie, Son & Koehler, at 231 Grant Street. Mr. Koehler, who also was a native of Birstein, took a deep interest in the young man and in his studies of pharmacy. As Mr. Schlotterbeck states, he initiated him in preparing mercurial ointment, powdering Spanish flies, etc.

On account of the disturbed conditions, owing to the conflict between the states, the business did not require extra help, so Mr. Schlotterbeck accepted a position as relief clerk in one of Miller & Reed's stores. Mr. Reed was well pleased with his services, but not having sufficient work for him, he secured a place for the young man with Joseph Leggett, corner Avenue C and 8th Street.

February 9, 1865, Mr. Schlotterbeck came to Portland, Me., and entered the employ of H. H. Hay, taking charge of the retail department. December 22, 1866, he started in business on his own account at 501 Congress Street and conducted this store for thirty-six years with eminent success. It was in this store, in 1867, that the formation of the Maine Pharmaceutical Association was proposed, and consummated July 23rd of that year. The first officers were: *President*, H. T. Cummings, of Portland; *Vice-President*, John G. Cook, of Lewiston; *Treasurer*, M. S. Whittier, of Portland; *Secretary*, Charles K. Partridge, of Augusta; *Corresponding Secretary*, A. G. Schlotterbeck, of Portland. Dr. M. L. Porter, of Danforth, was elected secretary of the Association in 1896, and has continued in that office ever since. This year the Maine Pharmaceutical Association celebrates its Fiftieth Anniversary; the convention will be held at Kineo, June 27th to 29th inclusive.

May 1, 1887, Charles S. Foss became associated with Mr. Schlotterbeck and, the business having grown, it was incorporated February 23, 1892, as the Schlotterbeck & Foss Company, of which the subject of this sketch was elected president and treasurer and holds the same offices at the present time. On account of the increased manufacturing business, the retail department was discontinued in 1902.

Mr. Schlotterbeck has been active and interested in the Maine Pharmaceutical Association throughout its fifty years of history and remains as the only living charter member. He joined the American Pharmaceutical Association in 1896.

EDITORIAL

E. G. EBERLE, Editor

253 Bourse Bldg., PHILADELPHIA

"THE GOOD THAT MEN DO LIVES AFTER THEM."

THAT a scientist is not without honor, save in his own time and in his own country, is not always applicable, but it certainly is in the case of Dr. Ignaz Philipp Semmelweis, whose name and work were almost forgotten until his memory was revived by Dr. Duka, a countryman, when he brought the name of Semmelweis to the attention of Lister at a banquet given in the latter's honor, at Pesth in 1883. The history of this unfortunate physician excited the liveliest interest of Lister, who recognized in him a true forerunner in rational antiseptic treatment, though he had evidently known little, if anything, of his success and nothing of his trials and unfortunate ending of this useful life. Since then the name of Semmelweis has been placed in "the hall of fame," and surgery of the present world war has given credit to the treatment employed by him a half century or more ago.

In some respects the lives of Lister and Semmelweis are similar, in others radically different, so also the work of the two men; both utilized the deductions of original investigations and fought the unseen enemies of disease with related weapons; Lister was supported by the scientific discoveries of Pasteur, which Semmelweis did not have for his guidance. The latter died in 1865, about the time that Lister was beginning his antiseptic studies. Briefly, soon after entering the practice of medicine, Semmelweis received the appointment to the Vienna Maternity Hospital, in 1846. Puerperal fever was then claiming a large percentage of the mothers; this observant physician not only gave his attention to cleanliness but more particularly to those attending upon the confined; many of the attendants often waited upon their patients without washing their hands. Semmelweis issued orders of cleanliness and asepsis, using chlorinated lime solution for the latter purpose. The result was that in 1848, he could report the loss by death in his department as less than one in a hundred. The jealousy, more particularly of his chief, Dr. Johann Klein, drove him from Vienna in 1849, when he came to Pesth in a like capacity and where, as far as his work is concerned, he was also successful. But here comes the difference in the character of Lister and Semmelweis; the former also had opposition and jealous enemies, but he was strong enough to ignore them, and not suffer from discouragement because others who did not understand his methods and would not become converts, made adverse reports and in jealousy antagonized him; Semmelweis went into a rage or fit of despondency if he learned of an epidemic of puerperal fever, or when others dragged down his

work to the plane of personalities. Lister lived to receive universal recognition of his work, hear and read the praises of his former doubters and enemies; unfortunate Semmelweis was bereft of reason some time before he passed away from a world that failed to appreciate his services—but succeeding generations gave him recognition.

The statement made at the beginning does not apply as well to the former as to the latter, however; though Lister was the son of an illustrious father and afterward son-in-law of a great surgeon, he was constantly hampered and himself, as well as his methods, the subjects of criticism until the evidence of the value of his work was so overwhelming that even his strongest antagonists were convicted and convinced, but nevertheless it remains a fact that England, his country, and more particularly London, was late in acknowledging Lister and his great work, and then only after the International Congress of Medical Science, held in Amsterdam in 1879, accorded him the most remarkable and unprecedented ovation ever given a medical man. When the chairman was able to secure quiet in the hall of the convention, he said: "Professor Lister, it is not only our admiration which we offer to you; it is our gratitude, and that of the nations to which we belong."

Lister always gave due credit to Pasteur's discoveries that enabled him to accomplish his great work; the climax of this acknowledgment came at Pasteur's Jubilee in 1892, on which memorable occasion Lister represented Great Britain and Ireland. Lister was embarrassed by the reception given him, when Pasteur took him by the hand, led him to the center of the platform and there embraced him; the spectators applauded and relieved their overfull hearts with sobs and tears.

To an extent this controverts the introductory of this editorial; admittedly so, but Lister was a remarkable man in every way and exceptions can be found even for rules. A reference to one of many attacks upon him will not only show that he had to contend with enemies envious of his success, but also his power in argument and restraint over his feelings. This attack was made in the *British Medical Journal* during the very year that the world did him homage at Amsterdam. The article was contributed by a fellow-professor who began his charge by disclaiming any feeling of envy or uncharitableness and then launched out into an attack of considerable bitterness, disparaging Lister's method and belittling his ability as a surgeon. The latter charge Lister dismissed with the statement that Mr. Spence had never honored him by witnessing his work as a surgeon, and regarding the other, he said, that if as a surgeon Mr. Spence was so superior to him, the fact that his (Lister's) successful results far exceeded those of Mr. Spence, could only prove more strongly the value of antiseptic surgery.

It is not only necessary for a person to know, but the important thing is the application of the knowledge, and the communication of it to others for larger

service. Herein both men were great, though Lister surpassed Semmelweis, but he had many advantages.

The thought presented is prompted by the nearness of commencement exercises in colleges of pharmacy. Students should be impressed with this important factor in their life of service; that the matter of passing an examination, while it is demanded, has comparatively little value unless the knowledge obtained is retained and made widely and continuously applicable.

There were many surgeons in the time of Semmelweis who knew of chlorine, but it was his wise application of the knowledge of its properties in conjunction with other very essential means employed by him that contributed service to humanity and saved the lives of thousands. Scheele discovered chlorine in 1774; Labarraque, in 1822, prepared the solution named after him. In *Eberle's Practice* we read in the discussion of disinfectants: "* * * * At present (1826), however, chlorine and the chlorides of lime and soda are regarded as decidedly the best disinfecting agents we possess. M. Labarraque's *disinfecting soda liquid* is a compound of soda and chlorine, and its efficacy in destroying infectious matter, has been conclusively demonstrated. * * * it is employed in surgical practice for destroying the fetor of malignant ulcers." So here in the United States, twenty years before Semmelweis came to the Vienna Maternity, the value of the preparation he employed was known and in more or less general use, but it was his observance of the cleanliness of the operators that largely made him successful, and very likely his method of practice—more than knowledge is necessary.

So also "carbolic acid" was discovered by Runge in 1834, and it was very soon thereafter employed for removing the offensive odors from drains and animal matter in the state of putrefaction, and was used by surgeons in their practice, but it remained for Lister to make successful application in surgery, aided by the purer product of Calvert, and more so by the discoveries of Pasteur. His treatise of the rationale of his practice is most interesting and shows how close an observer he was, but this presentation, even in abstract, would become too lengthy; the object of the reference is simply to impress that the ability to make right application of knowledge is equally as important as the acquisition of it, for without that qualification learning has little real value.

A final thought, and that is to show the link of pharmacy in the accomplishments of Semmelweis and Lister. The work of Scheele, Labarraque, Calvert and, more particularly, the discoveries of Pasteur contributed largely to their successful labors—they were needful; there is always an interdependence, and at the appointed time the individual comes forward who is competent to utilize the investigations of others and by the aid of his native or cultivated ability, energy and wisdom brings about the results that make of him a hero. There is no desire to dim the glory of these benefactors of humanity. Pharmacists should keep in

revered memory those in their profession who contributed lives of useful service; very often the names of pharmacists become associated otherwise, though their pharmaceutical experience may have largely influenced their later work. Whether pharmacy has been the stepping-stone to other activities or life-long occupation matters not, their records serve to encourage others to follow their excellent precepts and examples and lift others up to see higher ideals—that is the important thing. The carload of ore in Colorado may represent only the milligramme of radium in Paris, but there is power in the ore, though its potency is tremendously increased in the refined product—unquestionably that which at the last constitutes a so-called waste was essential, in one way or another, to the element.

E. G. E.

THE ASSUMED DESTRUCTION OF TRYPSIN BY PEPSIN AND ACID.

THE recent papers by Dr. J. H. Long and Mary Hull on "The Assumed Destruction of Trypsin by Pepsin and Acid"* are valuable contributions to biological chemistry and present some interesting deductions regarding the proteolytic enzyme trypsin, the important constituent of official pancreatin, and its power to resist destruction. In an editorial comment, the abstracts from these papers are necessarily limited to the more important statements and the conclusions of the authors, but the papers themselves should receive careful study.

The important part played by trypsin, as the active principle of the pancreatic juice, in the functions of digestion and the vital force make it all the more necessary that we should have definite knowledge of its functions, activities and power of resisting destruction and that the medical practitioner as well as the chemist have a clear conception of the conditions under which it performs its distinct function in life and of its sphere of usefulness in medicine. Its peculiar action on proteids, its power to rapidly form amino-acids and the end products of its digestive action have presented numerous problems in physiological chemistry that have claimed the attention of many able investigators.

This field of research investigation presents peculiar difficulties and as these authors state: "It is easy to arrange experiments *in vitro*, in which one group of ferments may appear to be readily destroyed by another, but it does not necessarily follow from these that under the conditions obtained in the body a like result should be expected." "The stability and mutual action of ferments depend on a multiplicity of conditions which are properly balanced in the animal body, but which appear to present enormous difficulties in the duplication *in vitro*."

In previously published contributions, Dr. Long had brought out the fact, which he now again emphasizes, that trypsin may be incubated with considerable quantities of hydrochloric acid without suffering appreciable loss of strength.

The investigations described in the first of these papers cover a series of experiments *in vitro* where a number of varying conditions with reference to strength

* Journal of the American Chemical Society, August 1916, p. 1620, and January 1917, p. 162.

of acid, amount and kind of protein present and resultant hydrogen-ion concentration were considered. It had been observed by several investigators that in some cases rapid destruction of trypsin took place in the presence of acid and pepsin while in others no such destruction was observed. The present authors present evidence that the fate of the trypsin depends on the relative amount and kind of protein present. "All the results secured point in the same direction and to the conclusion that the pancreatic ferment persists through the acid incubation, provided this acid is sufficiently bound by protein to bring the hydrogen-ion concentration down to certain values." "Not only does trypsin appear to resist the action of pepsin and acid under the conditions described, but it seems further likely that it is able to bring about some degree of digestion in acid solution which is more marked with some protein than with others."

The authors point out that the prior work of several investigators "had shown that there was some degree of tryptic activity in solutions of low acid concentration and that Lindberger, in attempting to account for the protein digestion in the acid duodenal tract of the dog, had shown that tryptic digestion may go on very well in the presence of lactic acid or weak acetic acid. At that period the relation of acidity to hydrogen-ion concentration was not known." "Weak lactic acid furnished the proper medium for the purpose." "The commonly accepted view that trypsin is rapidly destroyed by acids and that it can exert its peculiar behavior only in alkaline solutions follows, in part, from the assumed alkaline character of the pancreatic juice which is able to neutralize completely the acid chyme and leave a marked degree of alkalinity. Many recent observations have shown that the alkalinity of the pancreatic juice is often less than formerly considered 'normal.'" The mixed duodenal fluid in dogs is frequently found to be not alkaline at all. It is also possible, as has indeed been frequently suggested, "that for the initial solution and superficial splitting of the protein through trypsin a greater degree of alkalinity is called for than is favorable in the subsequent deep-seated loosening of peptide bonds. If the initial hydrolysis is accomplished through the action of pepsin and acid a nearly neutral medium might furnish the optimum condition for the later cleavage."

In a prior paper, Long and Fenger had shown that the press juice of the pancreas of hogs, sheep and cattle is distinctly acid and constantly so. Recent observations of Dr. Fenger and Mr. Nelson have shown that in the juice of the duct of hogs noted immediately after killing, the reaction is as often acid as alkaline. The authors express their opinion "that there appears to be no physiological necessity for the assumption that trypsin can act *only* in an alkaline medium, or that it is readily destroyed by weak acids of a concentration of physiological importance."

Summarizing the results of their extensive series of laboratory experiments *in vitro* the authors' conclusions are "that trypsin may be incubated with HCl of $P_H = 1.5$ through half an hour or longer without appreciable loss of strength. In the presence of pepsin the tryptic power is rapidly lost. However, if sufficient protein is likewise present, the acid, in combining with it, is unable to destroy in the same degree. When the acid concentration is reduced in this manner to $P_H = 2.6$, or below, tryptic activity persists, even through several hours at the tempera-

ture of the body. This is a practical condition which very commonly obtains in the human stomach. An active tryptic ferment would unquestionably pass with the chyme, in part at least, into the duodenum where the P_H value is quickly reduced to 6.5 or lower, and there be able to produce a proteolytic digestion of some degree."

The second paper deals with experiments on animals. These showed that when trypsin was not given along with the test meal the amount of nitrogen in amino combination liberated from the substrate fibrin is always minute. On the other hand, when trypsin is ingested with the meal containing some meat the tryptic activity in the aspirated liquid was very marked. The experimental data submitted give evidence that under such conditions a good part of the proteolytic power of the administered trypsin persisted after prolonged contact with acid and pepsin. "In all the animals the secretion of pepsin and acid was abundant, and from this point of view the conditions for the persistence of trypsin were not favorable. Yet, in the larger number of experiments, this latter ferment was not destroyed by the other combination where sufficient protein was present to bring the concentration of the free acid down to a certain value. Trypsin seemed to be destroyed or greatly weakened only when the acid was in excess with pepsin."

As a result of these animal experimentations, the authors' final declaration is that "these experiments appear to confirm our earlier conclusions from work done *in vitro* that trypsin, pepsin and hydrochloric acid may exist side by side under conditions which, following the ingestion of trypsin, may exist in the human stomach. It is even possible that some trypsin proteolysis may occur then in that organ when the free acid is very low from protein combination. The destruction or weakening of the trypsin is a function, probably, of the hydrogen-ion concentration."

The deductions of the authors appear to be justified by the results of their experiments and these controvert the accepted theory that has long been held and that has been commonly stated in the text-books, namely, that trypsin exhibits its digestive activity only in neutral or alkaline solutions. Likewise, do they render untenable, in its entirety, the contention that has been so broadly advanced and so energetically maintained by certain chemists, that trypsin is completely destroyed in acid medium by pepsin. Their conclusions have an important bearing upon the practical side of medicine and pharmacy as well as upon the theories of physiological chemistry.

It is stated that "these investigations were made with the assistance of a grant from the Committee on Therapeutic Research, Council on Pharmacy and Chemistry, American Medical Association." The deductions therefrom cannot be considered as being in harmony with certain views on this subject promulgated by some of the members of the same Council. It is well known how strenuously these members have criticized and opposed the administration of pancreatin along with other enzymes and dilute hydrochloric acid or lactic acid and how persistently that Association has lent its publications to the promulgation of their views. It would seem to be only fair that the readers of the medical and pharmaceutical journals, who have long been accustomed to receive literature setting forth views opposite to those now submitted by Long and Hull, should be made acquainted with this later research. While the importance of correcting fallacious theories

of biologic science is fully appreciated, it would appear that the practical application of these theories in medical practice is of paramount importance.

The use of preparations containing the mixed enzymes has been very extensive in American medical practice and many able physicians have claimed beneficial results therefrom. The problem of the pharmacist is not that of the therapeutic aspect nor that of the biologic chemist. So urgent were the demands of the Council of the A. M. A., so persistent the propaganda emanating from the same source, against such acid mixtures of enzymes "as chemical and therapeutic incompatibles" that the Committee of Revision of the National Formulary gave way to these demands and eliminated from the Revised N. F. the satisfactory formulas that had been adopted for both liquid and powder preparations of such mixed ferments and, hence, we now have no authoritative standard formulas for these extensively prescribed remedies. The proposed formulas, it is likewise to be noted, contained a small amount of hydrochloric acid, which became fixed or combined, and weak lactic acid which is now declared to "furnish a proper medium." These recent investigations would appear to substantiate the claims of the practitioner of medicine rather than those of the theoretical chemist.

The query arising from the contention of this radical wing of the Council is thus stated by Long and Hull: "Will trypsin administered by the mouth persist in the stomach and retain sufficient activity to aid in proteolytic digestion in the duodenum?" Their answer is: "It is evidently true that trypsin when given in relatively large amount and in presence of protein possesses the degree of resisting power necessary."

The nicety of the adjustment of conditions, the exact equilibrium of nature, under which the healthy body performs the functions of life cannot be duplicated in either the entirety or the exactness in the laboratory of the chemist. The ease with which bodies of such stable composition that they resist the strongest reagents and reactions of the laboratory, are broken down by changes produced by living organisms is only another evidence of the superiority of the Infinite and the limitations on human knowledge and discernment. Who can tell what is the potentiality that we denominate as catalysis and by which we attempt to explain the action of these enzymes or what are the limits of enzymic catalytic power?

It is not difficult to understand how, through the human imperfection, the results of experiments may be misleading and the judgment of the investigator perverted. This is all the more an argument why radicalism and hasty actions, which are too often based upon insufficient knowledge and incomplete experimental data, should not be permitted to displace clinical evidence and the practical exhibition of usefulness.

GEORGE M. BERINGER.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

ADULTERATION OF WHITE BEES WAX.*

BY K. F. EHMANN.

White wax was at one time an article which was very highly adulterated. The adulterations were rather ingenious, by the addition of such things as white lead, starch and other insoluble substances. Water was very frequently incorporated for the purpose of adulteration by agitation while the wax was in a melted state.

The natural fats, such as tallow, suet and lard were used. These were easily detected by the saponification number and the lowering of the melting point. More crude adulterations have been attempted, such as the addition of paraffin, soap and rosin.

Japan wax has been employed for adulterating white wax. For the detection of Japan wax in white beeswax a 10 Gm. sample is boiled for one minute with 120 mls of water and one mil of caustic soda. If Japan wax be present a soap will immediately form, which will solidify on cooling.

Spermaceti and lard have been used, but this mixture renders the wax soft and less cohesive, and of a smoother and less granular fracture. The odor on melting is changed some, by the addition of these substances.

To-day the white wax which is sold on the market is of a good quality. To prove this statement I have collected samples of white beeswax from various parts of the City of Philadelphia and examined them according to the tests set down in the U. S. P. The only point of difference was in the iodine figure, where the U. S. P. directs the use of Hübl's solution I have changed and employed Hanus' solution. In using this solution much time can be saved and greater accuracy attained. Out of the fifteen samples examined only one was adulterated, this adulteration being white lead.

The following table will show the range of the samples:

No. of sample.	M. P.	Acid Fig.	Sap. Fig.	Iodine Fig.	Action H ₂ SO ₄ .
1.....	63° C.	14	93	14 percent	O. K.
2.....	64° C.	13.7	89	12 percent	O. K.
3.....	64° C.	13	82	18 percent	O. K.
4.....	60° C.	15	87	17.5 percent	O. K.
5.....	58° C.	14	90	21 percent	O. K.
6.....	75° C.	0.2	0.5	1.2 percent	No reaction
7.....	61° C.	13	89	16 percent	O. K.
8.....	65° C.	12	92	19.5 percent	O. K.
9.....	60° C.	13	88	15 percent	O. K.
10.....	58° C.	11	84	16 percent	O. K.
11.....	63° C.	12	83	18 percent	O. K.
12.....	68° C.	18	95	14 percent	O. K.
13.....	60° C.	15	95	11 percent	O. K.
14.....	59° C.	20	92	12 percent	O. K.
15.....	62° C.	19	91	16 percent	O. K.

*Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

CORN OIL AND ITS HYDROGENATION.*

BY D. H. LACKEY AND L. E. SAYRE.

CORN OIL AS A SUBSTITUTE FOR OLIVE AND COTTONSEED OIL.

In the investigation of this oil, the physical properties, saponification value, iodine absorption number were taken, which were as follows:

The congealing point, composition and refractive index of the three oils may be seen from the subjoined table:

	Corn oil.	Cottonseed oil.	Olive oil.
Congeeing point.....	—10 to —15° C.	—0 to —5° C.	—0 to —5° C.
Composition:			
Solid fatty acid.....	27%	32%	15%
Liquid fatty acid.....	73%	68%	85%
Refractive Index by Strohmer at 15.5° C.....	1.4768	1.4743	1.4698

The following classes of preparations were experimented upon for substitution of corn oil for olive oil: Liniments, ointments, cerates, plasters, oleates.

The determination of the constants of corn oil, obtained from the Douglas Company, Cedar Rapids, Iowa, and made by Mr. Lackey, my associate in experimental work, were as follows:

Number.	Determination.	Values.
1	Saponification value.....	188-191
2	Iodine value (Hanus).....	115-119
3	Specific gravity.....	0.920-0.924
4	Free fatty acids (crude oil).....	4.4%
5	Free fatty acids (refined oil).....	1.05%

The Determination.—It seemed to us that the hydrogenated product might well be used in place of solid fats in various preparations and this idea led to the study of hydrogenation of corn oil. It may not be out of place here to state the general principles of hydrogenation.

Generally speaking, we may say that any liquid fat may be hydrogenated under the proper conditions. The ease with which hydrogenation takes place depends on several properties of the oil, as the degree of unsaturation (indicated by the iodine value). The higher the iodine value, the longer hydrogenation must proceed before the stearin stage is reached—which point is easily understood when we remember that a high iodine value will mean the presence of highly unsaturated bodies as linolic acid, linolenic acid or their glycerides. The ease with which an oil is hydrogenated is also affected by impurities in the oil, which may affect or poison the catalyzer.

From the simplicity of the reaction, hydrogenation would seem a very simple process. But the problem is far from simple as olein or oleic acid, under the methods first tried, resisted to any material extent the invasion of hydrogen into its structure. In fact, this was not successfully accomplished until the metallic catalyzers, or hydrogen carriers, were tried.

But the process to-day has reached such a degree of perfection that plants for

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

the commercial production of "hardened" oils have sprung up all over the world. The extent of the commercial importance of this industry is well stated by Ellis when he says, "So eagerly has the oil handling world lent itself to the idea, that already the stearin market has lost its firmness and much speculation is rampant as to the nature of price re-adjustments, which perhaps are on the way. Unquestionably, hydrogenated or hardened oil has taken its place in the oil market as a staple product."

A general method may be described as follows: The process consists of the use of a suitable catalyzer; for example, a freshly precipitated nickel oxide is reduced, by passing a current of hydrogen through it, to a metallic state. This is carried on at a temperature of 360°C . The finely divided metallic nickel constitutes the catalyzer in question. The nickel, reduced as above, is dried in an at-

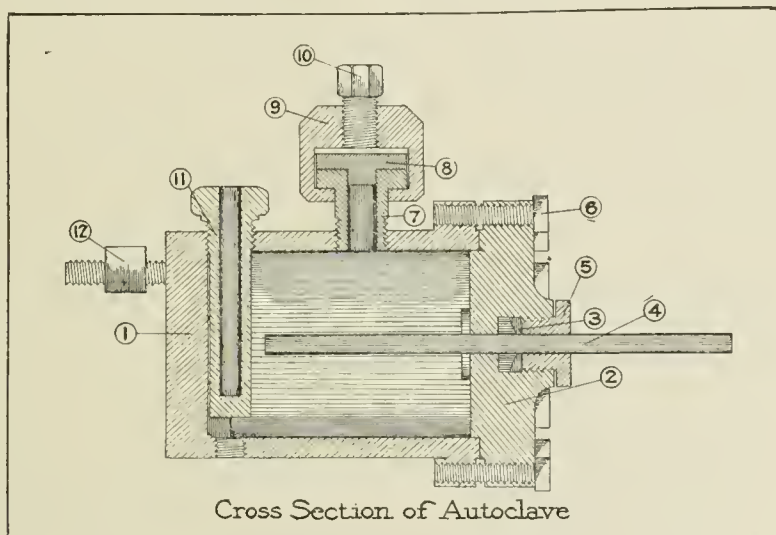


PLATE NO. II

- 1.—Main cylinder used to contain the oil under investigation.
- 2.—Cap or cover for cylinder No. 1—fitted to the cylinder with ground joint and held in place by twelve $\frac{1}{4}$ inch cap screws (6).
- 3.—Packing ring to secure gas-tight packing around rotating shaft.
- 4.—Driving shaft fitted with shoulder fitted against cap with ground joint. Either wire gauze agitator or balloon flask can be mounted on the driving shaft.
- 5.—Packing nut.
- 6.—Cap screws with No. 2.
- 7.—Charging hole through which oil and catalyst may be introduced into autoclave.
- 8.—Cap for charging hole. Fitted to No. 7 with ground joint.
- 9.—Clamp used to hold No. 8 in place.
- 10.—Set screw in clamp No. 9.
- 11.—Thermometer well.
- 12.—Tee for connecting to autogen or hydrogen cylinder.

mosphere of hydrogen and is brought in contact with the oil to be hydrogenated, care being taken that it shall not come in contact with the action of the air during the process. The mixture of oil and nickel is then brought in close contact with hydrogen through a tall cylindrical tank and in still closer contact by an adjustment to the apparatus, which causes the mixture of oil, catalyzer and hydrogen to flow through a narrow tube, the whole being kept at a temperature of from 175° to 190°C . The pressure is maintained in hydrogenation from one atmosphere, or less, to 25 pounds. Any excessive pressure is liable to cause leakage of hydrogen which is difficult to keep from issuing through the tightest of vessels. The pres-

sure used is regulated for different oils, some requiring more than others for proper hydrogenation. After the hydrogenation is effected, the mixture is pumped into a tank, heated by steam, then conducted to a filter press where the catalyzer is removed by filtration and the oil permitted to harden.

The apparatus used by us was constructed for experimental purposes only, where any quantity from 15 Cc. of oil to about 250 Cc. could be hydrogenated.

The experimental work on corn oil consisted of, in the first place, the degree of hydrogenation (indicated by melting point and iodine value) under different conditions of time, temperature, pressure, catalyzer content, etc.

The next investigation was concerned with the problem of a catalyzer, determining the rate of reaction of nickel oxide catalyzer which has undergone various degrees of reduction, in the process of hydrogenation.

It was found that the most favorable condition for the hydrogenation of corn oil, with our apparatus, was a pressure of 50 pounds, running the apparatus, or continuing the hydrogenation, for six or seven hours at a temperature of 200° C. This gave a product which had a melting point of about 36° C.

It is a question of interest as to whether hydrogenated corn oil could compete commercially with the other hydrogenated oils. In this connection we would observe that at present the price of corn oil is slightly below that of cottonseed oil. Therefore, since cottonseed oil is being successfully hardened and sold, we should be able to do the same thing with corn oil. In the second place, we may consider the ease of hydrogenation. We have run some comparative tests on hydrogenation between corn oil and similar oils of about the same iodine value and, as is seen from the following table, we may judge corn oil to be as capable of hydrogenation as any similar oil. The difference in melting points may be attributed to the fact that cottonseed oil has lower iodine value than corn oil, but, on the whole, the agreement is quite good.

Cottonseed oil.		Corn oil.	
Time.	Melting point.	Time.	Melting point.
6 hours	35° C.	5 ¹ / ₂ hours	31° C.
10 hours	39° C.	7 hours	34° C.
7 hours	35° C.	7 hours	33° C.
3 hours	29° C.	3 ¹ / ₂ hours	23° C.

It should be stated that when nickel oxide is used a trace of this is present in the finished product, about 0.006 percent. Such an amount would be regarded as objectionable for edible purposes although many investigators claim that nickel in minute amounts in foods has no toxic effect. Nickel-lined vessels have been used for years, and food prepared in them contains two or three parts per million, yet no injurious effects have resulted. This is as much as the average oil prepared by nickel catalyzers contains.

The presence of this amount of nickel would certainly not interfere or be objectionable in making most of the unctuous preparations. The one merit this hydrogenated product seems to have is its keeping quality. We believe we have proven the keeping qualities of hardened corn oil since we have samples of the hydrogenated product which have kept their sweet flavor and have not become the least rancid in over a year. This hydrogenated product has kept better even than a similar sample of cottonseed oil although it was subject to various changing conditions such as light, oxidizing action of the air and great changes of temperature.

It is worthy of note, in closing, that besides edible products, hydrogenated oils may be used for any purpose to which solid fats are put, as soap making, lubricants, etc.

Since liquid fats are essentially cheaper than natural fats and since it is possible to cheaply harden them to any desired consistency, hydrogenation is rendered especially attractive to soap manufacturers. The soap manufacturer has now at his disposal the means of utilizing low grade material in substitution for more costly stock. It is now possible to make hard soap, with the aid of hydrogenation, from oils which formerly gave only soaps of soft consistency.

According to the Japanese chemist, Tsujimoto, the odor of fish oil is due to a very unsaturated fatty acid called clupanodonic acid, $C_{18}H_{28}O_2$, and not to so-called impurities as is commonly supposed. Thus we see that by the addition of eight hydrogen atoms it is possible to produce stearic acid. When hardened down to an iodine number of 50, fish oil has the consistency of hard tallow and has lost all of its odor of fish and, in fact, has destroyed most of the fishy taste. Therefore, this would make a satisfactory soap stock and hardened fish oil is, in fact, extensively used in Europe for soap making.

Not so very much work has been done on the utilization of hardened oils for soap making in this country, but in Europe the industry is becoming quite extensive.

For a detailed discussion of soap making, including formulae, etc., utilizing hardened oils, the reader is again referred to Ellis' book, "The Hydrogenation of Oils."

On the subject of hardened oil for lubricants, it might be said that the physical and chemical properties of hardened oils, especially fish oil, indicate that these products could be well used in the manufacture of lubricants.



JOSEPH LISTER, M.D.
(Joseph, Baron Lister)

Born in Upton Lane, West Ham, England, April 5, 1827. Died February 10, 1912, at Walmer; buried in Hampstead (London) cemetery, where a plain, grey granite slab covers the grave.



IGNAZ PHILIPP SEMMELWEIS, M.D.

Born Ofen, Budapest, July 1, 1818. Died August 13, 1865; buried in Budapest where a monument has been erected over his grave by this municipality. The photograph is from *Semmelweis' Gesammelte Werke* by Dr. Tiberius von Györy.

SULPHUROUS ACID, ITS EXTEMPOREANEOUS PREPARATION.*

BY OTTO RAUBENHEIMER.

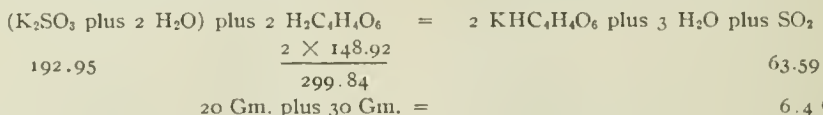
Acidum Sulphurosum, U. S. P. VIII, although it has been deleted from the Pharmacopoeia and has *not* been admitted into N. F. IV, but will be relegated to the A. Ph. A. Recipe Book, is occasionally prescribed owing to its antiseptic and germicidal properties, both for internal and external use.

The principal trouble with this acid is that it is very unstable, and, when the pharmacist is called upon to dispense it, he finds, to his sorrow, that his stock has deteriorated and has oxidized to a diluted sulphuric acid. Such was the case when I received a prescription sometime ago for Acidum Sulphurosum. The U. S. P. VIII gives a most excellent process together with minutest details, occupying a total of one and a half pages, for this preparation of this acid by the reduction of sulphuric acid with charcoal. However, for the preparation of a small amount, for instance, 50 or 100 mls, it is hardly practicable for the pharmacist to put together the apparatus required by the U. S. P.

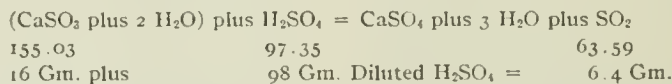
It, therefore, occurred to me that a method for the extemporaneous preparation of sulphurous acid would be of help to the pharmaceutical profession.

EXPERIMENTS AND STOICHIOMETRY.

Process No. I.—A modification of the Fothergill process, namely, liberation of SO_2 and precipitation of potassium bitartrate by the double decomposition of solutions of potassium sulphite and tartaric acid. In the reaction, which I present, the first line gives the chemical equation, the second line contains the molecular weights of U. S. P. VIII, as the work was commenced and finished before the ninth revision was published, and the third line contains the number of grammes and sufficient distilled water to produce 100 Gm. of Acidum Sulphurosum.



Process No. II.—Decomposition of calcium sulphite with diluted sulphuric acid.



Filtering is required in both these processes. The chief objection, however, is, that neither potassium nor calcium sulphite are generally in stock in most pharmacies.

Process No. III.—Sodium sulphite, both crystallized, as well as anhydrous, is practically in every drug store and my efforts were directed to use this chemical in the extemporaneous preparation of sulphurous acid.

In examining the excellent Index of Chemical Abstracts for 1915, I find under "Sulfur Dioxide"—"Preparation of Solutions," the very thing I have been looking for, although hidden in such a way that it is rather difficult to find.

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

The Abstract in Chemical Abstracts of August 20, 1915, p. 2286, is entitled: *Extemporaneous Preparation of Solutions of Sulfur Dioxide*. Cheney, Boll. chim. farm., vol. 54 (1915), 359:

In a bottle of 250 Cc. capacity, provided with a ground glass stopper, are placed 5.7 Gm. dry Na_2SO_3 and 18 Cc. diluted HCl. The bottle is then quickly stoppered and set in a cool place. The contents are shaken cautiously so as to facilitate solution of the salt. When effervescence has ceased, 25 Cc. H_2O are added and the mixture is shaken for several minutes. The volume of the final solution is 40 Cc. and the SO_2 content is 6 to 6.4 percent.

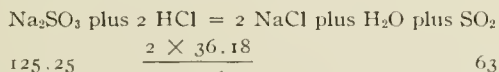
FALLACIES IN ABSTRACTS.

In glancing over this abstract my suspicion about its correctness was aroused when I added the given quantities, *i. e.*, 5.7 Gm., 18 Cc. and 25 Cc. are supposed to produce a total of 40 Cc.

Not having the latest edition of the Italian Pharmacopoeia on hand, I learned from my friend, Martin I. Wilbert of the Hygienic Laboratory, Public Health Service, Washington, D. C., that the Diluted Hydrochloric Acid in that standard contained 8.07 percent by weight of HCl. I prepared this strength acid and then made a number of experiments, based on a total volume of both 40 and 100 mls, with the following results:

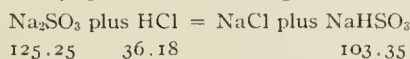
Na_2SO_3 .	8% HCl.	Volume.	Add H_2O .	Total volume.
5.7 Gm.	18 mls	20 mls	20 mls	40 mls
14.25 Gm.	45 mls	50 mls	50 mls	100 mls

I noticed that this reaction was accompanied by the generating of *heat*, while the generation and particularly the absorption of gases produces *cold*, and my suspicion was again aroused. The chemical reaction and molecular proportion is as follows:



or 14 Gm. plus 72.36 Gm. Diluted HCl = 6.3 Gm. in 100 mls
90% 10%

Sodii Sulphis Exsiccatus has been admitted into U. S. P. IX in place of the crystallized salt, with a purity rubric of not less than 90 percent of Na_2SO_3 . The Italian formula calls for 45 mls of 8 percent HCl which is the equivalent of just 36 mls of 10 percent HCl, which is exactly one-half of the requirement. The Italian chemist consequently gets the following reaction:



The SO_2 which is evolved combines with the sodium sulphite to form a bisulphite. Instead of calculating his result as NaHSO_3 , the Italian author reports that the finished product contains from 6 to 6.4 percent of *free* SO_2 . Another proof that it is absolutely necessary to base the calculation upon the chemical reaction which actually takes place!

WORKING FORMULA.

During the past few months I made over 50 experiments of 100 mls each, which were all checked by volumetric assays. In my work, I reached the following conclusions:

1. To bring up the finished preparation to a volume, namely, 100 mls, rather than weight.
2. To use the more permanent Exsiccated Sodium Sulphite, especially as same is now official in U. S. P. IX.
3. To pour the diluted hydrochloric acid on top of the sodium sulphite, as less SO_2 is lost, than when the reverse is done.
4. To keep the bottle cool during the process, as cold greatly helps the absorption of SO_2 .

The following working formula I have found to produce a full strength Sulphurous Acid:

Exsiccated Sodium Sulphite.....	14.5 Gm.
Diluted Hydrochloric Acid.....	75.0 mls
Distilled Water, a sufficient quantity,	

To make 100 mls

Place the salt in a 250 mil glass-stoppered cylinder, or bottle, which is graduated at 100 mls. Quickly add the acid, previously mixed with 20 mls of water, stopper and put in a cool place, for instance, under running water. Shake occasionally, and, if necessary, add water to make 100 mls.

Sulphurous Acid can, in this manner, be freshly prepared when wanted in a few minutes. This process produces a product which contains about 6 Gm. of SO_2 in 100 mls.

ASSAY.

The regular iodometric volumetric assay was employed as follows:

To 25 mls of tenth-normal iodine V. S. in a glass-stoppered flask, 1 mil of the sulphurous acid is added, the mixture agitated and allowed to stand a few minutes. This is then titrated with tenth-normal sodium thiosulphate V. S., using starch T. S. toward the end of the reaction. The number of mls of the iodine V. S. decomposed by the SO_2 are thus determined, and this figure multiplied by the factor gives the number of grammes of SO_2 in 1 mil of Acidum Sulphurosum. This multiplied by 100 gives the weight in volume percent.

The acid prepared without application of cold assayed from 5.1516 to 5.8512 w./v. percent of SO_2 . When cold or running water was used then it assayed from 6.042 to 6.678 w./v. percent of SO_2 , which proves beyond doubt the beneficial influence of cold in this reaction.

DETERIORATION.

Sulphurous Acid deteriorates very rapidly and within one month will assay only one-half the amount of SO_2 . For this reason it should be freshly prepared.

PRESENCE OF SODIUM CHLORIDE.

The acid prepared by this method will contain about 12 percent of sodium chloride, but I doubt if any serious objection can be made on account of this either for internal administration or for external application. Otherwise Process No. I or No. II can be used for the extemporaneous preparation of sulphuric acid.

As a result of the work on this subject, two points of great importance are noteworthy.

DANGER IN FOREIGN FORMULAS.

Whenever a formula is abstracted from a foreign source the careful investigator or experimenter should make sure of the strength of the ingredients, especially the chemicals, as they may differ considerably from the standards of the U. S. P., as again exemplified by the diluted hydrochloric acid of the Italian Pharmacopoeia which contains only 8 percent of HCl.

STANDARDS FOR ARTICLES DELETED FROM U. S. P. AND N. F.

A great many preparations, drugs and chemicals have been deleted from the U. S. P. and have been admitted into the N. F. Consequently their standards are taken care of. But how about a few articles, for instance, Sulphurous Acid, which have been completely deleted? It seems to me that the last standard should hold good. *I would suggest that the Preface of the U. S. P. should contain a statement to that effect.*

CONCLUSION.

I hope that this formula for the extemporaneous preparation of Acidum Sulphurosum will be of benefit to the pharmaceutical profession. If, however, the average pharmacist is too slow to use this process, then no doubt some up-to-date manufacturer will accommodate him by placing a package on the market containing a bottle of sodium sulphite and another of diluted hydrochloric acid together with directions. The author is not looking for any royalty!

COLLEGE OF JERSEY CITY,
DEPARTMENT OF PHARMACY.

ABSTRACT OF DISCUSSION.

PHILIP ASHER: I am glad Professor Raubenheimer brought up this point. There is only one thing in my mind, and that is regarding the stability of the sodium sulphite. I have had a great deal of trouble in getting a sodium sulphite that would hold up, but he makes mention of the fact that the U. S. P. calls for an anhydrous salt. I would like to ask him if he has tried to find the strength of the sodium sulphite after it has stood for some time.

C. H. LAWALL: That has already been answered by Professor Clark's figures in which he says that the anhydrous salt is practically stable.

L. F. KEBLER: Dr. Raubenheimer referred to the use of sulphur dioxide. There are several proprietary products on the market that are sulphurous in character—namely, one that is called "Microbe Killer" and that is supposed to be good for everything on the face of the earth. I would just like to call attention, in this connection, to one point, and that is that some of the claims made by these people are substantiated by medical literature, and in fairly well recognized and accepted literature. This is due to the fact that this literature enumerates everything for which the particular article has ever been recommended and used, and it either places the authority in a very embarrassing position, and so also the practitioner. For instance, several books recommend sulphurous acid as a treatment for tuberculosis, and one of our well-known chemical friends said some years ago that it was an excellent agent for the treatment of tuberculosis. There is nothing in it. About the keeping of dry sodium sulphite. Sodium sulphite, on the market, is about 90 percent dry, and it does keep.

SECTION ON EDUCATION AND LEGISLATION, AMERICAN PHARMACEUTICAL ASSOCIATION

PUBLICATION OF POTENT DRUG CONTENT IN ALL READY-MADE
MEDICINES. IS IT DESIRABLE?*

BY JOHN A. LEVERTY.

Provision No. 2 for the draft of a Modern Pharmacy Law as proposed by the Voluntary Conference operating under the Section on Education and Legislation of the American Pharmaceutical Association, presents a tentative proposition for your consideration.

Inasmuch as the several propositions are to be presented to the various state associations for consideration with the purpose in view of eventually becoming part of the statutes governing Medicine and Pharmacy, the general operation of any or all of these proposals must necessarily be in the very distant future.

It would therefore seem apparent that the primary effort should be made to have this with several of the other provisions become a federal requirement, thereby necessitating the passage of adaptations by every state.

In the minds of the vast majority of the laity, the appearance upon the label of a content whether potent or non-potent, has absolutely no significance.

To demonstrate this point, a daily publication in one of our largest cities devotes a portion of its valuable space to health hints from the viewpoint of a supposed expert.

Some weeks ago I chanced to call at the home of a friend of whom it might be said enjoys the reputation of being well educated; incidentally principal of one of our largest public schools, a close student of the health hint column and apparently well versed in the action upon the human system of the health-giving constituents of food products, adulteration, misbranding, etc.

After listening to a rather lengthy dissertation upon the subject, I asked to see the recently purchased bottle of Extract of Vanilla and much to the consternation of my student of pure food products found the preparation to be a Vanillin compound; the label upon the bottle having attracted no attention or could its purpose be interpreted.

Still another instance as to the effect upon the laity of the publication of a content, and possibly a bit more amusing, can be traced to an interpretation by the Food and Dairy Commissioner of a section of our Food and Drugs Act.

Actuated by a desire that the public should not be imposed upon in purchasing any article enumerated in the food and drug list coming within the jurisdiction of his department, he promulgated a ruling to the effect that at all soda fountains where syrups fortified with $\frac{1}{10}$ of 1 percent of sodium benzoate were dispensed, a card bearing a statement to this effect should be prominently displayed.

* It was the intention of Chairman Freericks to have this paper read at the time Provision No. 2 of the Voluntary Conference on Model Pharmacy Laws was discussed, but the reporters records do not show that this was done, hence the paper is separately printed.—Editor.

Shortly after the card's appearance in one of our progressive pharmacies, a patron of apparently more than ordinary intelligence inquired as to the variety of syrups the notice referred to and selecting one of those enumerated, consumed it with great satisfaction, favorably commenting upon the beverage and inquired as to whether this particular kind of syrup could be obtained at all drug stores.

While the incidents herein do not deal with potent drug content it is fair to assume that the appearance upon the label of any drug content, irrespective of its potency, would receive no more serious consideration.

It is not an uncommon occurrence for a prescription containing a potent drug, copied from the pages of "Diagnose Your Own Ailment," "Be Your Own Physician," or some similar publication, to be presented to the pharmacist for compounding. In the majority of cases no amount of persuasion avails.

When one considers the popularity of some of our nationally used proprietary and semi-proprietary medicinal compounds containing approximately the average dose of potent drug content to the teaspoonful, single tablet or pill, and as often as otherwise sufficient quantities are taken at one time to bring the dose to the supposed maximum without serious result, it is well within the realm of imagination to believe that the self-medicator is the favored child of an all-seeing Providence.

This being true, it would seem that the initial effort should be made along educational lines that will convey to the mind of the public the dangers of potent drug medication.

The proper conservation of public health and safety should be the only consideration given to the measures relating to medicine and pharmacy. It is an extremely happy thought that through the untiring and consistent efforts of the pharmacists of this country, laws conserving public health and safety are upon our statute books. Inadequate though they may be, radical changes should not be attempted until such time as measures can be formulated that will place equal responsibility and restriction upon medicine and pharmacy in all its allied branches; these provisions made so specific that an interpretation will be dependent upon the wording and absolute intent rather than upon rules and regulations promulgated by officials unfamiliar with the needs and requirements and at the instigation of an individual or organization influenced by the desire to bring relief to one branch while imposing unwarranted and harrassing restrictions upon another.

If it is deemed essential that a record be kept of all packages of medicines containing the isolated active principle of a potent drug, it would seem equally essential that the use of such principle as a content should not be permitted except in preparations and medicinal compounds distributed upon the prescription of a regularly licensed physician or dentist, purposely omitting the veterinarian, as the pernicious practice of the veterinarian's prescribing for human ailment should not be tolerated.

The detail connected with the keeping of a record could be reduced to the minimum and satisfied by the corresponding numbers upon the prescription and container.

The keeping of the record of the disposal made of so-called patent medicines, the use of the isolated active principle being permitted would entail no small amount of time and effort which together with the present federal and state record-

keeping requirements would necessitate the employment of an efficiency expert for this purpose alone.

That there is urgent need of legislation as suggested in the provisions presented by the Voluntary Conference is further evidenced by the latest periodical attack on the retail pharmacists by the Technical Assistant of the Division of Pharmacology of the Hygienic Laboratory of the U. S. Public Health Service.

This report would occasion no serious thought were it not for the fact that the reports emanating from this department are distributed among those whose influence is deemed sufficiently powerful to retard at least any effort toward legislation affecting their individual interests.

A close analysis of the report and the statement contained therein, that, "this variation in purity and strength of widely used drugs and preparations is a vexation to the physician and a menace to the patient" may well give rise to the question of sincerity of purpose.

It says: "The risk of placing too much reliance on what can be accomplished by state control alone without putting a proper amount of responsibility for the purity and strength of medicines where it rightfully belongs—on the pharmacist or druggist who sells or dispenses." , No reference being made to the physician who dispenses and sells or to the claims made by close students of conditions that 65 percent of the medicines consumed by the American people is distributed by dispensing physicians, the standard of strength for which, though in many instances questionable, has never been the subject of any report from this important branch of government service. Further, out of a total of 2872 samples collected from five states a general average of 30.5 percent was rejected. An analysis of the list of widely used drugs and preparations examined, shows that for $33\frac{1}{3}$ percent of these the pharmacist should not be compelled to assume the responsibility as to purity and strength.

From these deductions it can readily be seen that the proportionate share of the pharmacist's offense, $33\frac{1}{3}$ percent of the general average of 30.5 percent, approximates 10 percent.

Closer scrutiny suggests why medicines when given for their physiological effect are frequently disappointing in expected results or the reverse; in the latter instance producing secondary manifestations of drug intoxications. Once more it might be said that those taking medicine are the favored children of an all-seeing Providence. What would be the result if this selected list of drugs was up to the required standard!

The concluding statement to the effect, "that the laws designated to regulate the practice of pharmacy and to restrict the distribution of potent drugs to especially trained and capable individuals are ineffective and sadly out of keeping with present-day needs and that efficient and active control of drugs and their preparations can be exercised only by the dispenser or distributor of medicines to the consumer," is absolutely true. But why place upon the pharmacist the entire responsibility for the dispensing and distribution of medicines to the consumer?

If the author be sincere in the statement and the organization which he so ably represents be strictly in accord with his expressions, the purpose for which this Voluntary Conference was originally created is approaching the goal.

With the members of the American Medical Association a unit in support of

measures pertaining to medicine and pharmacy and all allied branches, the proper conservation of public health and safety will be positively assured, since the measures proposed by the Conference were formulated for this express purpose.

In conclusion, permit me to suggest that the chairman take under consideration the advisability of ascertaining the mind of the medical profession upon these propositions in their entirety, as experience has served to make plain that the real opposition to effective and sufficient control of the distribution and use of drugs and medicines is found with part of the medical profession or those allied with them.

PARAFFIN TREATMENT OF BURNS.

In a British War Office Departmental circular, part of which was reprinted in the *Journal* for March, page 335, the statement is made that Paraffin No. 7 has been giving better results than Ambriue. The method of application is given by Albert Gray, Chairman, in London, of the French Wounded Emergency Fund, in a letter to the *Outlook*, and printed in the number of March 21, 1917, page 522.

"The paraffin treatment is begun at the first dressing; very exceptionally in very septic burns the paraffin is replaced by hot boric fomentations for two days after two days of paraffin treatment. The burn is washed with sterile water and dried. The drying is accomplished by placing a dry piece of gauze over the burn. If an electric drying apparatus is available, such as is used by a hairdresser for drying hair, it forms a convenient method of drying the burn. The burn is now covered with a layer of paraffin at a temperature of 50° C. No. 7 Paraffin has a melting point of 48° C. The temperature may be estimated by waiting till the wax shows a solidifying film upon the surface. A broad camel's hair brush has been found to be a rapid and painless method of applying the paraffin. A spray may be used, but sprays get out of order, are troublesome to use, and the dressing takes longer. In theory a spray should be used in order to prevent any damage to the epithelium. In practice we have found that a brush skillfully used is sufficiently satisfactory; the brush allows the paraffin to be applied at a lower temperature.

"A thin layer of cotton-wool cut the same size as the area of the burn is placed over the wound after the first layer of paraffin has been applied. This layer of wool is covered with a second layer of paraffin; the wool is cut in thin sheets and pressed between layers of wool. The dressing is completed by applying wool and bandage. The burns are usually dressed daily. In the later stages, when the burn is clean and only a small amount of pus is formed, the dressing is changed every forty-eight hours.

"Blisters are not interfered with in any way at the first dressing; the paraffin is applied after washing the burn. Sloughs usually separate after a few dressings. The separation of sloughs is accelerated by applying a layer of jaconet over the wool and paraffin beneath the wool and bandage dressing.

"The treatment of burns by paraffin must not be discontinued in the latter stages. The substitution of ointments or fomentations is most strongly contra-indicated. Cases have come under our notice in which the good results of treatment have been entirely negated by unsuitable treatment applied in the later stages. The newly formed skin is easily destroyed by fomentations. Paraffin must be continued until the burn is sufficiently healed to permit of any dressing with boric or talc powder."

COÖPERATION BETWEEN STATE MEDICAL AND PHARMACY
BOARDS—DRUG COMMISSIONERS ACTING UNDER THEIR
JOINT AUTHORITY AND SUPERVISION.*

BY E. H. THIESING.

Provision No. 8, as submitted by the Voluntary Conference for Drafting Modern Laws Pertaining to Pharmacy, has been of very great interest to me. It seems to contain food for much earnest thought. It would open up the way for mutual and better understanding between Medicine and Pharmacy, and it carries the possibility of speedy and satisfactory results along that line.

As I understand this provision, it proposes that the enforcement of all laws pertaining to the distribution, sale and use of drugs shall be subject to the control and supervision of the State Medical and Pharmacy Boards, jointly. I note particularly that the authority to be vested shall be equal in every respect, so that the power of one board shall not be greater than that of the other. The provision includes, that, under the joint authority of the two boards, there shall be created the office of a Drug Commissioner, with whom shall directly rest the enforcement of all of the laws in question.

Of course, in any discussion of such a proposal at this time, it will serve no purpose to regard details of operation; it will serve no particular purpose now to consider possible limitations and restrictions; nor will it serve a particular purpose to dwell upon ways and means. The real question is as to whether it is advantageous and in public interest to have medical boards and pharmacy boards joined in the enforcement of drug laws. Considering only for the present that one particular question, it does not seem possible that the contrary may be argued with any show of reason, though, of course, I am not unmindful of the fact that many whose interests are primarily centered in the advancement of pharmacy strongly urge that the enforcement of all drug laws should be in the hands of pharmacists.

Looking at the matter from the viewpoint of the public interest primarily, and that of medicine and pharmacy in so far as they serve the general public, it must be admitted that State Boards of medicine and of pharmacy are intended purely to be representative of the public in their relation to medicine and pharmacy. They constitute the official public representatives. They owe their existence to the fact that public supervision is necessary, and because it has been recognized that proper public supervision can be exercised only by those who have been specially fitted and qualified, that is, by those who follow the callings in question. It seems to me that entire public concern in the distribution, sale and use of drugs is centered in having proper control and supervision by those who for that purpose have been selected to represent the public. Control and supervision by the medical board alone, if such might even be contemplated, must immediately appear to be incomplete and insufficient, because medical men are not trained in the manufacture of drugs, nor do they have thorough knowledge regarding practical details which concern their keeping, purity, distribution and sale. On the other hand, pharmacists, as such, lack qualifications which are properly found with the medical men, and which are equally essential in a particular, efficient and correct

* Read before Section on Education and Legislation, A. Ph. A., Atlantic City meeting, 1916.

enforcement of drug laws. By combining the knowledge of both professions to the common end of proper control and supervision over the drugs, we bring together all who are specially adapted for the exercise of this public function.

Different expedients have been adopted in different states for the proper enforcement of drug laws. In some states supervisory power seems to be in the hands of medical men, usually as they constitute boards of health; in other states, the supervisory power rests more or less vaguely with boards of pharmacy; while in still other states the supervisory power is as far removed from its correct place as is the farm and cow shed from the hospital and pharmacy. Where supervisory power is in the hands of medical men, there is great opportunity for the exercise of prejudice and injustice, sure to result in friction and discord, and weighed down with a load of suspicion.

Where the enforcement is with pharmacists, in whose hands it no doubt more correctly should rest, there is equal opportunity for discord, because so many medical men do practice pharmacy, whether right or wrong. Where the enforcement rests with those who neither represent medicine or pharmacy, it presents opportunity not only for discord and real public harm, but is made the plaything of politicians who look for political advantage. With few, if any, exceptions the enforcement of the drug laws is not carried on to best serve the public welfare, in which both medicine and pharmacy are so vitally interested. Let medicine and pharmacy join in the exercise of this function which so peculiarly belongs to them and really compensating results will be produced.

Looking beyond the primary purpose which must underlie all law and its enforcement, that is, the general public welfare, the most wholesome possibilities may be found for a more harmonious working together. Unity of action, mutual understanding, that is, a better understanding between physician and pharmacist, can not now be secured by the coöperation and getting together of the individual members of the profession; many little things, and big ones, too, tend to prevent that, but through the understanding of individual representatives, there may be such needed understanding secured for those who make up the entire professions. Conditions now exist which do not give opportunity for bringing together in any manner the larger part of the two professions. Good-will and the creation of confidence in each other by individuals of the two professions, instead of tending toward a widening circle, rather work for even greater isolation. What pharmacy needs to-day and what the public needs, because of the needs of pharmacy in this respect, is a thorough-going, harmonious coöperation and understanding with medicine; and any method which will serve to bring closer together the official representatives of medicine and pharmacy is bound to reflect upon the two professions as a whole. Correct tactful approachment to go beyond the individual and the individual sphere can be opened up only as between the leaders of the two professions, and admittedly such leaders, such real representatives must largely be found in the representative colleges and in the respective official boards. Bring together the representatives of medicine and representatives of pharmacy as they constitute the respective state boards, and wonderful progress will have been made toward that mutual understanding and respect which now is so greatly lacking.

I earnestly bespeak a most thorough consideration for the proposition to join State Medical and Pharmacy Boards in the enforcement of drug laws.

THE HOUSE OF DELEGATES, AMERICAN PHARMACEUTICAL ASSOCIATION

MINUTES OF FINAL SESSION.*

The final session of the House of Delegates was called to order by Chairman Hynson at 11.15 A.M., September 8, 1916, at the Hotel Chalfonte, Atlantic City, N. J.

The minutes of the previous sessions were read in abstract by the secretary.

SECRETARY HOSTMANN: Usually resolutions from this House are referred to the Council, but as there is no meeting of the Council before the final general session of the Association, anything we do here will have to go to the general session instead of to the Council.

Resolution number one: "Resolved that the House of Delegates recommends the adoption of the following amendment to the by-laws of the Association 'That there be and hereby is created a House of Delegates to have and exercise such functions as may be hereafter specified by the Association.' "

In explanation I may say that I submitted this amendment to the general session that after we act upon it, this afternoon it may be brought up at the general session. The idea of this resolution is to make the House of Delegates a by-law body instead of a resolution body. At present the House of Delegates exists by resolution and can be wiped out by resolution.

THE CHAIRMAN: This resolution was offered by Mr. Hostmann because it was necessary to get it before the general session that it could be acted upon at the next session of the House of Delegates, and Mr. Hostmann has explained to you why it is desirable to make the House of Delegates, if it is to be anything, a part of the Association; creating the House of Delegates by by-laws rather than, as it now stands, by resolution. Would you like to endorse this idea?

N. P. HANSEN: I move you the resolution as read be adopted by the House of Delegates.

H. V. ARNY: I second the motion.

W. C. ANDERSON: Mr. Chairman, before that motion is put, it seems to me this is not the proper procedure; if the House of Delegates is not a needed body, if it does not serve any good and definite purpose, we had better not make it a standing body of the Association and rather than make it a part by law, that the House of Delegates should be one of the sections, as we may say, of the organization, or a regular part of the parent organization and then proceed to designate some power for the House of Delegates. We had better see if we can find something for the House of Delegates to do under resolution and, if there is no good purpose it is serving, we had better not make it a part of the parent body. Therefore, I am opposed to this resolution. We have been trying now for three years, I think, to find out just what service the House of Delegates can be to the American Pharma-

* For reports of other sessions see p. 185, February issue and p. 281, March number of the JOURNAL.

ceutical Association. As originally proposed, it was intended that it should facilitate the work of the general organization, should take the work from the general session, somewhat, and, perhaps, from some of the sections; but what particular line of work the House can do that does not belong to some of the sections of the American Pharmaceutical Association has not been determined. Therefore, I believe we should not attempt to take the House of Delegates into the regular organization by a by-law as this proposes.

H. V. ARNY: Mr. Chairman, the object of my seconding this motion was exactly in accord with what Dr. Anderson has in mind, although we seem to be talking on the opposite side of the question. The real question is, as I understand it, "Is this House of Delegates worth anything or is it not?" If it is worth anything, it should be treated better than it has been in the past. If it is worthless, it should be abolished, and the only time to bring that squarely before the Association is at a general session, and the only way for us to do, even though we may not approve of it at this particular moment, is to vote this resolution as it is. The real reason why this resolution is so worded is the fact that there are no less than two bodies which are considering this exceedingly important subject of the House of Delegates. I think both bodies and every member here agree on one point, absolutely—either let us abolish it or let us make it worth while. Now these two bodies which are wrestling with it are a committee of this House and a committee on the President's address. Since in both of these bodies the selection has been very carefully made—on both committees our friend, Dr. Beal, who devised the House of Delegates, is represented—it strikes me that we are entirely within our rights in passing this resolution to bring the matter squarely before the general session. That is my understanding of the situation. If I am wrong I would like to be corrected. Let us either abolish it or give it something to do.

N. P. HANSEN: Mr. Chairman, I endorse the suggestion that has just been made. The House of Delegates should have a more responsible position in the Association or should be relegated without any. There is only one way of trying it out and that is just as has been said, to bring it squarely before the general session. If you want any action you should have it in the parent body, because it does have and does exercise authoritative action in the matter. It has authority to do that. It is a good thing for us to know whether or not we are actually of any value, any worth, or can render any service. If we are of any worth or value and can render service, we are glad to do it, pleased to do it. If we have no functional responsibilities, let us know it, and to know it I think is a step in the right direction. That is why I made the motion.

THE CHAIRMAN: Any other remarks?

W. C. ANDERSON: Mr. Chairman, I agree with the former speakers that this matter ought to be brought to the general session and a decision arrived at. It appears to me that this is the wrong way to bring it before the general session, with the backing of the House of Delegates in favor of making it a permanent organization, when I do not believe there is a person in the room believes it ought to be such. Our resolution will have some effect upon that body. Can we pass a resolution here that we want this House of Delegates made a permanent organization, a part of the great organization of the American Pharmaceutical Association, and then go before that body and argue that we don't want our resolution approved?

N. P. HANSEN: May I ask you a question?

W. C. ANDERSON: Certainly.

N. P. HANSEN: Would you suggest a method or mode by which we may get before that body for instruction other than this?

W. C. ANDERSON: I would much rather take before the body a resolution adopted here to-day saying that we recommend the House of Delegates be discontinued, and then we can support what we think is right.

N. P. HANSEN: Mr. Chairman, that is the best possible answer to this thing, shall we go there to approve it or abolish it?

SECRETARY HOSTMANN: I do not presume to think for anyone else, but I would like to say for one individual that I must absolutely disagree with Dr. Anderson as to whether the House of Delegates should be made a by-law body or not. I would never have submitted this amendment if I had not thought it was absolutely necessary; if we are going to reorganize, we ought to start at the bottom. I do not believe that there has been any earnest effort made in the past three years to make anything out of the House of Delegates. The delegates have been appointed in a haphazard manner. They will not attend the meetings. The majority of them are very active in the Association and due to three or four meetings on at one time, they slight the House of Delegates. Now I claim that if the Association adopts this amendment and the House of Delegates is made a by-law body, it will be brought before these organizations, that will be given representation, in an entirely different light; delegates will attend the sessions and we will be able to impress the program committee that we ought to have meetings of the House of Delegates at such a time that the delegates can attend the sessions without neglecting other association business. My sole idea in suggesting this was to bring it squarely before the Association, whether the thing ought to be something important or continued as a joke, but I certainly think it ought to be a by-law body.

W. C. ANDERSON: I would like to offer, Mr. Chairman, a substitute for that resolution: "Resolved that it is the sense of the House of Delegates that this particular body should be discontinued."

THE CHAIRMAN: You have heard this substitute for the original motion; any remarks on the substitute? Is there a second to it?

OTTO F. CLAUS: Mr. Chairman, I will second it just to bring it before the body.

THE CHAIRMAN: It has been seconded, the substitute which means the abolition of the House of Delegates. Are you ready for the question?

EMIL ROLLER: I am a new member, appointed by my Association to attend these meetings. May I be enlightened, what was the reason that the House of Delegates was created three years ago? I mean, when this resolution was brought in to create the House of Delegates, what was the opinion at that time prevailing?

THOMAS F. MAIN: Mr. Chairman, I have always been in doubt as to whether this House of Delegates was formed for the purpose of relieving the general session of the Association or was formed in an effort to meet the procedure of the American Medical Association. Personally, I feel a good deal like Dr. Anderson. I have never been able to see how the House of Delegates has benefited the main body and I do not remember of any favorable work that the House of Delegates has done.

(W. S. Richardson takes the chair.)

H. P. HYNSON: I feel I have done about as much as one man ought to do in connection with the House of Delegates. It does not matter whether the House of Delegates has done anything or not, or whether it has served a good purpose or not; to my mind it ought to be considered from a different point of view, whether, in this great country of ours with its large geographic extent and its multitude of pharmacists as compared with those of 1860, we should not have some form of a delegate body so that the pharmacists all over the country, represented by the state associations, could be represented in a national association. It does not matter whether it is done by the American Pharmaceutical Association or not. There is no doubt but that the state associations are going to unite, just as the boards of pharmacy have united and as the faculties have united, into a national association. It seems to me that the question for us to consider now is, whether we are going to let them get apart or separated from the American Pharmaceutical Association or whether we will bring the state associations, as a great feeding body, into the American Pharmaceutical Association.

The constitution of this House of Delegates, as it now exists under Professor Beal's motion, was to give a place to the delegates who had been appointed to the American Pharmaceutical Association, who have no place in the program. He thought that it would interest them and give them an opportunity to speak, etc., or "let off steam." I have no such idea as that. I thought when I became interested in it, it is the idea that has been in my mind since I was president of our State Association in 1896, you will see it in my presidential address, that the state associations ought to be united in a delegate body; representing, as they do, about 25,000 members. I received a card to-day stating that the Iowa Association has a membership of 1917 members. Now the whole membership of the American Pharmaceutical Association is not double that, is it?

I summed up the cards stating the membership of these associations and the number was about 22,000 before I got this from Iowa which would make 25,000. It is a tremendous body and I think we ought to go slowly about this. I do not believe that American pharmacy will ever be represented or that we will ever have a body to represent all the parts and phases of American pharmacy until we unite the state associations in a delegate body.

If the American Pharmaceutical Association can take advantage of this it seems to me it would be the greatest forward step possible. I have thought it might be very easy to say that the state association members could have the publications of the American Pharmaceutical Association for whatever they cost, maybe \$3.00; \$5.00 entitling them to state membership and the publications. That would be an inducement. Probably a large number of them could be persuaded for the purpose of taking part in the sections or the work of the Association in general, to become members of the American Pharmaceutical Association.

Since 1860, in this great country of ours, we have been trying to increase the membership of the American Pharmaceutical Association and we have absolutely failed. To think of 3500 members representing 75,000 eligibles; it is perfectly ridiculous. Why not develop some new method of increasing the membership? I am absolutely singing my swan song on this. I use that expression because when I get out of this session, this is the last work I am going to do, but I do believe you gentlemen will see the state associations united in a strong national body

and it remains with you whether you are smart enough to unite them with the American Pharmaceutical Association or let them form an independent body. It is a great scheme, it seems to me. It is the best thing that can be done to bring American pharmacy together. I thank you very much.

N. P. HANSEN: We have a very live association in Nebraska, about 625 members. They have good meetings every year. They are fellows that do things and have done things ever since they have been in existence, thirty-six years. Now that association is commencing to organize itself into functional units and, as Dr. Hynson says, it is just a question of whether you want to avail yourselves of the timber that is in that association or whether you want it to go somewhere else? Do you want it or not? That is just about the question. If you can create some position in which it may act, thereby becoming serviceable to the American Pharmaceutical Association, as Dr. Hynson remarked, and by finally becoming active members of the Association, taking part in the section work, I think you have done something good. Those associations are going to organize themselves in furtherance of their individual interests and collective interests in these states, and you are not going to prevent them from doing that. Now the question is where are they going to land? What is going to be the result? There could not be expected to be any better result than for them to become attached to that learned body, the American Pharmaceutical Association; and I think that the American Pharmaceutical Association could be enlarged very materially should it have these associations, with their officers, working in the same direction. Any particular difference of opinion that might arise would be a difference that would tie rather than separate. In the interest of the American Pharmaceutical Association, I sincerely believe that it is possible to organize these state bodies for national work that will redound to the best interests and to the promotion of that which we hold dear, to the furtherance of education and higher standards in pharmacy throughout the entire country.

W. C. ANDERSON: Mr. Chairman, I do not want to prolong this argument, and I certainly have no objection to the plan that is outlined by Dr. Hynson and Mr. Hansen at all. There may be, here, an opportunity for such an organization as they propose, but when we present recommendations to the American Pharmaceutical Association to create such an organization and make a by-law, providing that it shall be a permanent organization, we ought to have with that some ideas of what that organization is to be and what it has to do. As it is now, there are delegates sent from different bodies to the House of Delegates and they have come here for three years and argued as to what the House of Delegates shall do; it has nothing to do. There is no question that has been brought before this House of Delegates, in the three years it has been in existence, that does not belong to some of the sections, educational, legislative, commercial interests, historical or some other section. It is simply calling the delegates from these different sections, where they could be of some value and obtain some knowledge, into a meeting to spend time talking about what shall this particular body do? And that is the reason I believe the body, as now existing, ought to be done away with, because it was only a resolution that created it. And then Dr. Hynson or some one else, having some definite ideas with reference to the correlation of these different organizations, should bring in some definite plan, and in the report I propose, we should have something concerning what this body should do and what its objects are.

H. V. ARNY: Mr. Chairman, this is a most striking example of simultaneous sessions. Our Chairman gave a fine report outlining the mission of this body and the Secretary put it into tangible form by calling attention to plans which had been suggested for obtaining results in this House of Delegates next year. A committee was appointed, of which Dr. Beal is a member, which I believe proposes to present tangible reasons. This is one reason, Dr. Anderson, why it is proposed to make this a recognized part of the Association.

W. C. ANDERSON: Lay this whole thing on the table and let it come up at general session.

THE CHAIRMAN: The question is on the substitute offered by Dr. Anderson.

THE SECRETARY: The question before the house is: "Resolved that the House of Delegates recommends to the general session that the House of Delegates be discontinued."

THE CHAIRMAN: I will ask for a vote on that.

Motion put before the house and lost.

THE CHAIRMAN: Now the vote is on the recommendation.

THE SECRETARY: "Resolved that the House of Delegates recommends the adoption of the following amendment to the by-laws of the Association: 'That there be and hereby is created a House of Delegates to have and exercise such functions as may be hereafter specified by the Association.' "

(Motion put before the house and carried.)

H. P. HYNSON: Yesterday, to be able to bring this before the house, I moved an amendment of the by-laws of this body in regard to the representation in the House of Delegates. Chapter II, Article I, reads:

"Representation. The membership of the House of Delegates shall consist of three regularly elected or appointed delegates from the Local Branches of the American Pharmaceutical Association, State and Local Societies, Colleges and Schools of Pharmacy and delegates from the National Association of Retail Druggists, National Wholesale Druggists' Association, American Medical Association, National Association of Boards of Pharmacy, Women's Organization of the National Association of Retail Druggists, National Association of Manufacturers of Medicinal Products, American Chemical Society, Association of National and State Food and Dairy Departments, Association of Official Agricultural Chemists, and from the departments of the Army, Navy and Public Health and Marine Hospital Service, the American Association of Drug Clerks, the credentials of whom shall be approved by the Council; together with five members of the Council, appointed by the Chairman of the Council. The President, President-elect, Treasurer, General Secretary and the Chairman and Secretary of the Council shall be members *ex-officio*."

I have contended that this body can never be what it should be unless it is composed of delegates who represent the same character of membership and the same character of associations. The state associations' membership is exactly in accord with the American Pharmaceutical Association, which includes persons representing all kinds of pharmaceutical interests. They harmonize almost identically with the American Pharmaceutical Association, but we have represented in the present House of Delegates every form of interest, unequal in scope, unequal in interest and unequal in everything. My friends, it is just like making a Congress of representatives from counties, representatives from cities, representatives from

congressional districts and representatives from states, putting them all into one Congress with equal power and do you not see there would be double representation? The same man represented by the district, by the city and by the county representative. That is just the condition we have here which I have tried for about three years to explain. Therefore, I moved to amend these by-laws, yesterday, by striking out of chapter two, article one, all after the word "from" and inserting the words "each state association." With your permission I will amend that so that article one will read as follows: This I have a right to do, notice having been served:

"Representation. The membership of the House of Delegates shall consist of three regularly appointed delegates from each State Association, from the District of Columbia Association and from similar associations in Porto Rico and the Philippines and any foreign American state. Delegates from all other bodies and organizations shall have the privileges of the floor but shall not have the right to vote."

I submit that if the Association makes this a permanent organization by by-law and we adopt this amendment, then we will have a delegate body such as Mr. Hansen has so ably advocated. I move that the amended form be adopted as a substitute for that presented yesterday.

N. P. HANSEN: I second that motion to bring it before the house.

THE SECRETARY: Now that the motion has been seconded, although I am heartily in favor of this change in the by-laws, I would like to call attention to two things: first, that we had presented to us yesterday a resolution which recommends that a committee be appointed to consider this question of representation in the House of Delegates. Of course, that resolution has not been adopted as yet. The second question in my mind is that the by-laws of the House of Delegates say that the House of Delegates shall have the right to draw up by-laws that are not inconsistent with the by-laws and constitution of the Association or the Council and I cannot see, if the Council and the Association has decided for us what our representation shall consist of, how this can be constitutional.

H. P. HYNSON: You have said yourself there are no by-laws regulating this organization.

THE SECRETARY: But we were created by the Council and when the Council gives us the right to make by-laws that are not inconsistent with the by-laws of the Council or the Association: (Reading) "It shall have the authority to adopt all rules and regulations necessary for the proper conduct of its business and not inconsistent with the constitution and by-laws of the Association and the Council."

H. P. HYNSON: Why not let this go through and if it is inconsistent we can make the other by-laws conform to it?

H. V. ARNY: Mr. Chairman, I would like to offer as a substitute, that at the present time this proposed change of the by-laws be referred to the Committee on Reorganization of the House of Delegates, to study along with the other ideas they have in mind.

W. C. ANDERSON: I second that motion.

H. P. HYNSON: Professor Arny, I hope you will not press that, because if you do you will put this thing off as you have before. If you will pass this amendment and it is not in accord with what is best, it can be changed next year, but if

we go without some definite action this year, then we have wasted another year. Why put it off?

H. V. ARNY: In explaining my substitute motion, I will state it is something like this: for all we know at three o'clock this afternoon there will be no House of Delegates, a vote may be passed that the House of Delegates be formally abolished. What is the use of us voting for this amendment until we definitely find out whether we are going to have a House of Delegates or not? And, Dr. Hynson, do not forget you are the man who is going to give us a comprehensive plan next year. Why should not you include that?

H. P. HYNSON: We have done that time and time again. Mr. Chairman, I do hope if we are going to do anything at all (we have said that such a body should exist) we will give a definite idea of what the House of Delegates shall be. If, afterwards, you wish to pass a resolution as to what its functions shall be, that will be all right.

H. V. ARNY: Mr. Chairman, I desire to press my substitute motion. I want my good friend, Hynson, to understand that there is no discourtesy intended at all, just simply to turn it back, to defer it for a short time. It is in your hands to bring up at any time.

H. P. HYNSON: Unless you pass some such amendment as I have offered, the House of Delegates has no standing which will give it recognition. We want to say to the general session "this is the House of Delegates we wish to establish and maintain."

THE SECRETARY: I have a resolution here, resolution number nine, "Resolved that representation in the House of Delegates be limited to state and territorial pharmaceutical associations." That was a recommendation that was to be made to the general session.

H. P. HYNSON: Read my amendment.

THE SECRETARY: "Representation. The membership of the House of Delegates shall consist of three regularly appointed delegates from each State Association, from the District of Columbia Association and from similar associations in Porto Rico and the Philippines and any foreign American state. Delegates from all other bodies and organizations shall have the privileges of the floor but shall not have the right to vote."

H. P. HYNSON: Mr. Chairman, I move to refer my amendment to the General Association as a recommendation, if the House of Delegates is continued, that this be the by-law with reference to representation.

H. V. ARNY: I withdraw my motion then.

(Motion put before the house and carried.)

(Chairman Hynson resumes the chair.)

THE SECRETARY: Resolution number two: "Resolved that the Association recommend to its members the use of the Evans' rule for pricing prescriptions."

H. V. ARNY: I move that be adopted.

W. C. ANDERSON: What about the Sherman law, the fixing of prices on things by combination?

THE CHAIRMAN: Gentlemen, this is out of order because that resolution was adopted yesterday, unless you move to reconsider the action of yesterday.

H. V. ARNY: That is very interesting. I want to call your attention to the

fact that the same discussion started in the New York State Pharmaceutical Association and someone raised the point that since the New York State Pharmaceutical Association was a chartered organization, if we should resolve the prices of prescriptions should be so much, we might get in the arms of the Federal Government. Was that point brought out?

THE CHAIRMAN: Not at all.

H. V. ARNY: I would, therefore, recommend that the action of yesterday be rescinded.

W. S. RICHARDSON: I do not think we ought to take up the pricing of prescriptions.

THE CHAIRMAN: I will tell you what occurred. Mr. Mason read a paper and in it he recommended very highly the Evans' rule. The proposition was discussed a little while and I finally said, "Is there anyone here who would like to make a motion to endorse the Evans' rule as the sense of the House of Delegates," and Dr. Claus got up and said, "I take great pleasure, Mr. President, in making that motion." He is not here, but I remember how he said it, "I take great pleasure," and it was seconded and passed without opposition. The House of Delegates stands on record as endorsing the Evans' rule as the proper plan of pricing prescriptions. If you want to move a reconsideration, do so.

W. S. RICHARDSON: I move to reconsider the action of yesterday on this subject.

(This motion was seconded by H. V. Arny, put before the house and carried.)

W. C. ANDERSON: The motion is before the house the same as it was before it was passed. The motion is to adopt it.

THE CHAIRMAN: All in favor of endorsing the Evans' rule as the sense of the House of Delegates signify by saying "aye."

(This motion was lost by a unanimous vote.)

THE SECRETARY: Resolution number three. These were referred to the House of Delegates by the general session. They are two resolutions recommended by the Committee on Weights and Measures:

"Resolved that this Association approve the idea of a conference to be held in New York during December and authorizes its committee on weights and measures to participate in such a conference.

"Resolved that the Association expresses the hope that the National Wholesale Druggists' Association will also take steps to appoint a committee to take part in the proposed conference."

W. C. ANDERSON: I move the adoption.

(This motion was duly seconded, put before the house and carried.)

THE SECRETARY: The fourth resolution is from the Committee on Status of Pharmacists in Government Service. This was read at the second general session of the Association and referred to the House of Delegates.

(See page 1038, October issue, 1916.)

H. V. ARNY: I move its adoption.

(This motion was seconded by Dr. Anderson, put before the house and carried.)

Then we have a resolution which was sent in by mail from the Wisconsin Pharmaceutical Association:

"At the last annual convention of our Association the following resolution was passed, *viz.*:

'Whereas as the delay in the publication of recent revisions of the U. S. P. has been the subject of much unfavorable comment and whereas the present inadequate methods of revision appear to be largely responsible for this delay, therefore be it, Resolved: That the Wisconsin Pharmaceutical Association request the American Pharmaceutical Association to take such steps as may be necessary to secure for the future a more adequate and scientific revision by more up-to-date methods and be it further Resolved: That we favor the future revision of the United States Pharmacopoeia by the U. S. Government with the convention for the revision of the U. S. P. as an advisory body.'

Respectfully submitted,

(Signed) E. G. RAEUBER, *Secretary Wisconsin Pharmaceutical Association.*"

H. V. ARNY: I move that communication be referred to the Association's committee on United States Pharmacopoeia.

(This motion was duly seconded, put before the house and carried.)

THE SECRETARY: Resolution number six: "Resolved that representation in the House of Delegates be limited to state or territorial pharmaceutical associations."

H. V. ARNY: That has been practically disposed of by a preceding resolution and I move that be adopted.

(This motion was duly seconded, put before the house and carried.)

THE SECRETARY: The last resolution—this has been handed in by Dr. Rusby: "Resolved that the American Pharmaceutical Association accept the invitation of the joint committee on nomenclature of the American Association of Nursery Men and the Ornamental Growers' Association to appoint a committee to co-operate with them in bringing about uniformity in certain plant names and that the incoming president be instructed to appoint a committee of three for this purpose."

H. V. ARNY: Mr. Chairman, Dr. Rusby had to leave this morning and he wished me to discuss this matter. He wished me to bring this up in the general session and I impressed him it would be better to discuss it here. This is a very flattering recognition of the influence of the American Pharmaceutical Association. The nurserymen and horticulturists are using a lot of archaic drug names and they realize the good work that has been done here on the uniform classification of drug names and they have appointed a committee but they have requested particularly that the men who did the work in the American Pharmaceutical Association should coöperate with them, so I heartily move the adoption of that resolution.

(This motion was duly seconded, put before the house and carried.)

THE SECRETARY: As it will be impossible for your secretary to get the transcript of the stenographic notes of this session before this material is given to the general session, I would beg your permission to read to you what we have decided to do, so that there will be no mistakes afterwards and so that no one will go away from here with any misapprehension.

(The secretary then read the minutes of this session in abstract form.)

THE CHAIRMAN: Under the head of unfinished business, I will call for report of the Committee on Nominations.

H. V. ARNY: The Committee on Nominations has decided to recommend as chairman, Dr. James H. Beal, founder of this House of Delegates, Vice Chairman, Mr. S. C. Henry, both of whom are working on the subject in the president's

address, and since Mr. Hostmann has been working on this matter so well, we recommend his renomination. This is the report as it stands.

N. P. HANSEN: I move the report of the committee be received and the nominations close.

(This motion was seconded by Dr. Anderson, put before the house and carried.)

H. V. ARNY: I move the Chairman cast the ballot for the election of the nominees.

(This motion was seconded, put before the house and carried and the Chairman cast the ballot.)

THE CHAIRMAN: I take great pleasure in declaring Dr. Beal elected Chairman, Mr. Henry, Vice-Chairman, and Mr. Hostmann, Secretary, and as Dr. Beal is not present I ask Mr. Henry to take the chair.

VICE-CHAIRMAN HENRY: Mr. Chairman, this is all so sudden to me that I wonder if it was wise for me to come in the room. I can assure you, gentlemen, that I had no intimation at all that I was even being considered for any honor at the hands of either this particular section or any other section of the American Pharmaceutical Association. However, I think that my interest in pharmaceutical matters is sufficiently well known to you all to know that I am always willing to serve my fellow pharmacists to the best of my very limited ability and I, therefore, thank you for the confidence you have in me and the honor you have bestowed upon me.

(This concluding the business of the House of Delegates a motion to adjourn was adopted.)

Favorite phrase of the reformer—"They do it so much better in Europe"—has been dinned in our ears until we are inclined to be petulantly resentful. Like naughty children, we are continually nagged by zealous friends who urge us to emulate the scientific and economic achievements of England, Germany and France.

Echo answers from those very countries, in words of the same sort from their equally zealous friends, "emulate the great deeds of America." Only a few weeks ago the Privy Council of Great Britain pointed out that the U. S. was doing more than any other country in industrial chemistry.

And in Parliament assembled, America is further held up to Britons, with the admonition: "Go thou and do likewise."

Viscount Haldane: "Englishmen have been lacking in scientific direction of their abundant energy. To secure this, training and education are essential."

Lord Bryce: "The business community of England, unlike the business community of America, does not yet appreciate the important effect which scientific discovery and the application of science to their industries, might have upon their business."

In the debate on technologic education, Viscount Haldane told the story of an American manufacturer of photographic supplies who wished to develop new scientific research. This manufacturer found a very capable expert in England; but no inducements could take this man from the British company which he was serving. Thereupon the American manufacturer bought out the whole British establishment, chemist and all, and now has him as head of his research laboratories in Rochester, New York.—*The Nation's Business*.

SECTION ON PRACTICAL PHARMACY AND DISPENSING, AMERICAN PHARMACEUTICAL ASSOCIATION

JEOPARDIZING THE PHARMACIST'S REPUTATION FOR FAIR DEALING.*

BY ROBERT P. FISCHELIS.

In every walk of life there are men who, because of ignorance or lack of scruples, are continually jeopardizing the good name of their fellow craftsmen.

Pharmacists, perhaps more than any other group of men, have been made to suffer inconveniences of all sorts because of a few evil doers within their ranks, and it is only very recently that pharmaceutical organizations have taken up the matter of educating the public to the realization that the profession as a whole should not be judged by the acts of a few weak brothers.

Campaigns of publicity such as have been inaugurated by several state associations will redound to the good of the rank and file of retailers, provided the public actually receives the kind of treatment which it is led to expect from the press bulletins issued.

The object of this paper is to sound a warning note to those who are taking unfair advantage of war conditions and favorable publicity regarding the high prices of drugs, to impose on the public and thereby cast a blot upon their fellow craftsmen.

Two instances have recently come to the attention of the writer, which demonstrate either an intense ignorance of prevailing market prices of drugs or a desire to "bleed" the customer, on the part of the pharmacist. One druggist received a prescription calling for $1\frac{1}{2}$ grains of powdered opium, and $\frac{3}{4}$ grain of powdered belladonna to be mixed and made up into three rectal suppositories. Claiming that the Roman numeral III looked like XII on the prescription, he made up 12 suppositories in place of 3, although the quantities of the drugs should have suggested that fewer than 12 suppositories were prescribed.

The customer was charged \$1.30 for this prescription. Let us analyze the cost. The opium at prices then prevailing cost .4 cent, the belladonna .02 cent, the cacao butter for twelve 30-grain suppositories 3 cents, making a total of 3.42 cents. Doubling this would give us roughly 7 cents. Adding 5 cents for cost of container and a liberal compounding fee of 75 cents, we arrive at a total of 87 cents.

Without taking into consideration that the wrong number of suppositories was put up in the first place, it can readily be seen that a fee of \$1.30 was exorbitant.

A veterinarian of high standing and one who has a warm spot in his heart for the pharmacist, having been an apothecary at one time, told the writer of an experience which is even more striking than the above.

He sent two prescriptions to a druggist, one calling for 2 fluid ounces of fluid-extract of ergot and $\frac{1}{2}$ fluid ounce of fluidextract of nux vomica, and the other

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Atlantic City meeting, 1916.

calling for 2 ounces of potassium bromide. A lumped charge of \$4.25 was made for the two prescriptions.

Taking them up individually, we find that 2 ounces of potassium bromide at that time cost 82 cents; doubling this cost, adding 5 cents for container and 15 cents as a compounding fee, we have \$1.84.

Two fluid ounces of fluidextract of ergot cost 56 cents, half an ounce of fluidextract of nux vomica cost 7 cents, making a total of 63 cents; doubling this and adding 5 cents for container and 30 cents as compounding fee we have \$1.61; adding this to the charge for the bromide prescription we get \$3.45. Thus it will be seen that the customer was asked to hand over nearly \$1 more than a most liberal accounting would make the prescriptions worth.

The customer protested to the veterinarian about the high price asked for these prescriptions and the latter promptly took up the matter with the druggist who maintained that the charge was just. But the best part of the story is still to come. Two days after these prescriptions had been filled, the pharmacist notified the customer that he had made a mistake in looking up prices and that the two prescriptions would cost \$1.65, which is just 15 cents above the actual cost of ingredients and containers, according to our calculations.

The latter case therefore seems to be one of gross ignorance of how to compute the price of a prescription as well as a lack of acquaintance with market prices of drugs. In the former case it seems to be a question of "getting as much as possible while the getting is good."

It would be a pity if the organized effort that is being expended in placing the pharmacist in the proper light before the public should be made ineffective by the acts of a few greedy blunderers, just when this effort is beginning to bear fruit.

ABSTRACT OF DISCUSSIONS.

EMIL ROLLER.—We can not adopt any uniform rule of pricing prescriptions because of the different locations and the different clientele we have, and the peculiar conditions of these people will necessitate a moderation of prices in some neighborhoods, while in other neighborhoods where rents are in the thousands and the people have an income that is ten, twelve or twenty-five thousand, to charge them prices that we would charge to our customers in a neighborhood where the men earn twelve, fifteen or twenty dollars a week would be unjust in the one case to the customer, and in the second case unjust to the druggist because his expenses in the conduct of business is so much larger and those have to be added. Once in a while I have an argument with customers, "Why, I paid Jones only so much, why should I pay you more?" I always answer them, "If you eat a steak in a little restaurant you pay fifty cents, and if you go to the Waldorf Astoria you pay a dollar and a half and you wouldn't kick about it. Why do you kick here? You get better service in this neighborhood, adapted to your means and conditions." So I think the fixing of uniform prices must be invariably looked upon according to the position or location where you have your store.

OTTO RAUBENHEIMER.—I don't see anything wrong with the charge of one dollar and thirty cents for twelve suppositories, and if it was a good hot day I would charge a dollar and a half.

H. A. B. DUNNING.—One point I want to make with reference to the price of prescriptions; referring to the twelve suppository prescription particularly, I don't think that we should give much consideration to the cost of the prescription. More consideration should be given to the time and thought and care of finishing that prescription. The cost should be based rather on the knowledge required and the time than the cost of it. As a matter of fact we often tell our customers that we don't calculate costs. We calculate overhead expenses particularly, and the knowledge and other necessary requirements such as one of the gentlemen mentioned, of locality and the ability of the customer to pay.

P. HENRY UTECH.—I believe the average drug store puts too little valuation on the professional knowledge. For instance, if you are located on a corner, rather than to add five or ten cents more the tendency is to make it five, ten or twenty cents less and in doing so in a large measure depreciate your own ability as a pharmacist. I think that is one of the things we ought to take home as a lesson, as Mr. Roller says, stand on your own feet and don't be afraid to charge what the trade will bear, of course within reason.

R. P. FISCHER.—I might say my prices were computed according to the N. A. R. D. schedule of pricing prescriptions, and I hope every one of you are getting a dollar and a half an hour for your work. You must not lose sight of the fact that this prescription was written for three suppositories.

I note that no one took exception to the prescription which did not take any time at all to compound, and for which an exorbitant fee was charged. I might say in the one case, it was the transaction of a country store and the people who brought the prescription were poor people, and the latter fact holds true in the city store, for the other prescription. It may be true that in different localities we need to charge different prices, but we can't lose sight of the fact that there must be a maximum in things. If we are getting the business of pharmacy down to a system, we ought not to have one system for one customer and another system for another customer.

EMIL ROLLER.—I would just like to make one remark. One day one of those "very smart young men" came in with a prescription for a grain and a half of potassium permanganate and four ounces of water. I made up the prescription and charged him forty cents. Well, after he paid, and with lots of people in the store he said, "Suppose I had bought ten cent's worth of permanganate of potash how many bottles of this could I have made?" I answered: "I charged you ten cents for the permanganate, five cents for the bottle, and twenty-five cents for my labor. If you had bought the permanganate and I mixed it for you, you would gladly have given me, wouldn't you, twenty-five cents for the labor?"

MEDICINAL PLANTS IN DECORATIVE ART.*

One other result of garden activity (Wisconsin Pharmaceutical Experiment Station) is worthy of special mention. Though remote and unexpected, it proved interesting none the less. If the average American drug store of the past was not much of a work of art, its decoration was even less such. Yet it has long been known that some of the medicinal plants lend themselves admirably to conventionalized decoration of a higher order and are peculiarly adapted to the drug store. Hence, in the late summer of 1914, Miss Bernice Oehler, teacher of art at the Madison High School, was induced to visit the garden and to look over the available material. At that time a large number of species and varieties of *Datura* were in blossom and had already produced fruit. Leaf and stem, flower bud, full blown flower, and capsule, all lent themselves admirably to the problem. For each member of the art class there was a different species or variety, yet all of the forms were of similar type. The result was most striking. The water-color drawings and the conventionalized designs proved universally attractive when exhibited at the University Exposition the following spring. If juniors in a high school can produce such results what may be expected of the mature artist? The possibilities in this direction for drug store decorative art are well-nigh unlimited. The adoption of such designs in planning new stores would result in something distinctive, and would tend, as much as any one thing, to lend a more professional aspect to the pharmacist's place of business.

Of these illustrations The School-Arts Magazine says that they exhibited unusually fine coloring, all lost in the half-tone reproduction. See illustrations on following page.

* From Report of Pharmaceutical Experiment Station, University of Wisconsin, December 1916.



DRUG STORE DECORATIONS

Decorations derived from several species of *Datura*, raised in the Wisconsin Pharmaceutical Experiment Station garden, by pupils of the Madison High School under the direction of Miss Bernice Oehler. (The cut was kindly loaned by *The School-Arts Magazine* of Boston.)

SECTION ON HISTORICAL PHARMACY, AMERICAN PHARMACEUTICAL ASSOCIATION

PHARMACEUTICAL EVENTS IN 1816.*

BY OTTO RAUBENHEIMER, PHAR. D.

Although in the excellent chronological summary of the chief chemical events in *A Concise History of Chemistry*, by T. P. Hilditch, a blank space is left behind 1816. I find from my notes, collected for a long time, that the many events of that year in the fields of pharmacy, chemistry and allied sciences are amply sufficient for an historical paper.

The arrangement is the following:

1. Of General Interest.
2. Events, Pharmaceutical, Chemical, etc.
3. Inventions and Discoveries.
4. Bibliography.
5. Pharmacists born in 1816.
6. Pharmacists who died in 1816.

OF GENERAL INTEREST.

National Banks established in the United States.

American Bible Society formed. Centenary celebrated at Carnegie Hall, N. Y. City, May 9, 1916.

Indiana became a State, the 19th State of the Union on December 11, 1816. Centenary celebrated at Bloomington, the seat of Indiana University by historical pageants on May 16-18.

Brooklyn, N. Y., was incorporated as a village, a small village without streets or sidewalks. The first barber moved back to New York and in order to secure another the village authorities offered free rent.

Brooklyn Sunday School Union formed. Local celebration on April 9, 1916. Seasons reversed, summer into winter and winter into summer.

Proclamation of Argentine Independence, commemorated by American Congress of Bibliography and History, July 1916, at Buenos Aires and Tucuman.

Gas installed for lighting in London, England, and also in Baltimore, being the first city in United States with gas illumination.

Great famine 1816-17 in Europe. The chancellor of a German university experimented with wood and published an article on the art of making bread from wood.

John Redmond Coxe, professor at the Medical School, University of Pennsylvania published a paper, "A Plan for Electric Telegraphy," which antedates any American suggestion on this subject.

Agitation commenced in St. Clairsville, Ohio, to abolish slavery.

Abraham Lincoln, 8 years old, and his parents moved from Kentucky to Indiana, crossing the Ohio River in a raft.

* Read before Section on Historical Pharmacy, Atlantic City meeting, 1916.

EVENTS, PHARMACEUTICAL, CHEMICAL, ETC.

1816-20, Thomas Cooper, Professor of Chemistry, University of Pa.

1816-27, John Gorham gets Erving professorship at Harvard.

First lectures on pharmacy in University of Pennsylvania buildings by Dr. James Mease, a well-known medical practitioner and author in Philadelphia. This is said to be the first attempt of systematic instruction in pharmacy, public or private.

Judge Thomas Cooper, Philadelphia, advertised "A Course of Chymical Lectures to be given in the old Masonick Hall in Filbert Street on Tuesday, Wednesday and Friday evenings of each week at 7 o'clock. Tickets \$15 for the course."

Cultivation of peppermint started in Wayne County, Mich.

Pierre Louis Dulong, after losing an eye and sustaining severe injuries to a hand in the discovery of nitrogen chloride in 1811, began work on the oxides of nitrogen. He also studied oxalic and other organic acids and showed that water is an essential constituent.

1812-1816, Berzelius investigated the stages of oxidation of most of the metals, and by determining the composition of these oxides, confirmed the law of multiple proportions.

Laplace established Theory of Velocity of Sound.

INVENTIONS AND DISCOVERIES.

Renné Laennec, physician at the Necker Hospital, Paris, in examining a patient's heart constructed the first *Stethoscope* by rolling a quire of paper into a cylinder and applying one end to the region of the heart and the other to the ear.

Robert Hare, later (1818) professor of chemistry, University of Pennsylvania, invented the Calorimotor.

Alexander Marcet of London, isolated from urinary calculi, in 1816, xanthine, which later was investigated by Woehler, Liebig and Strecker.

Alois Senefelder, the inventor of lithography, made for his own use pens from steel watch-springs. In 1816, he sold his invention to J. Alexander of Birmingham, who started the manufacture of steel pens. At first they were a luxury but about 1830 they came into extensive universal use.

Friedrich Wilhelm Adam Sertuerner, the apothecary at Einbeck, Germany, after announcing in his first report in 1806 the discovery of "Opium-Säure," names this product in 1816 "Meconic Acid" and explains that it is combined with an alkaline base which he called "Morphium." This discovery was made in 1816, but the report was first printed in *Gilbert's Annalen der Physik*, 1817, p. 56. For this reason, there is frequent confusion between the date 1816 and 1817. This subject is of such great importance to pharmacists that it deserves a separate paper.

BIBLIOGRAPHY.

Annales de Chimie et de Physique, edited by Gay-Lussac and Arago, became the successor of Gay-Lussac's *Annales de Chimie*, in which the great chemist published most of his experiments.

Traite de Chimie Elementaire Theorique et Pratique, a text-book by Louis J. Thenard, professor at the École Polytechnique and in the College de France. The publication was commenced in 1813 and completed in 1816. Owing to its

excellent synoptical arrangement the work became widely used and was translated into German by Fechner in 1825-33. This work remained the standard authority in chemistry for over a quarter of a century.

Conspectus of the Pharmacopoeias of London, Edinburgh and Dublin was published in 1816 by Dr. Anthony Todd Thompson, an eminent Scotch physician. Born in Edinburgh in 1778, he studied medicine and chemistry under the celebrated Monroe and Blake. After practicing medicine in London, he devoted himself to chemistry and pharmacy.

Pharmacopoeia of New York Hospital was published in 1816, and enjoyed for some years (until U. S. P. became well known) an authority of more than local character. The physicians and surgeons of the New York Hospital appointed, in 1815, Dr. Valentine Seaman and Dr. Samuel Mitchel to prepare this Pharmacopoeia for their use. The latter was elected President of the first U. S. P. Convention held in the Capitol at Washington, January 1, 1820.

BORN IN 1816.

Dr. Hans Hermann Julius Hager (1816-1897), generally and simply called Hermann Hager, I place at the head of this list, as in scientific pharmacy he is the brightest star in the heaven of the profession. Having written his biography in the *Druggists Circular*, January 1916, *Deutsch-Amerikanische Apotheker Zeitung*, January 1916, and the *Bulletin of the College of Jersey City*, Vol. III, No. 3, February 1916, I will not repeat same, as these publications are easily available. However, I want to call attention that Hager has also been honored in our country by being elected an honorary member of the A. Ph. A. in 1868, the Chicago College of Pharmacy in 1869, the Massachusetts College of Pharmacy in 1871, the New Yorker Deutscher Apotheker Verein in 1872, and the Philadelphia College of Pharmacy in 1883. The German Apothecaries Society of New York City has presented each one of these societies and colleges a large photograph of Hager to be an inspiration to the younger generation of pharmacists.

LALLEMAND.

Seemingly forgotten is Alexander Lallemand, a French pharmacist, born in Toulouse in 1816, as but very little information can be obtained even after a diligent search. His principal work was done on volatile oils. He determined the saponification value of oil of spike lavender and also the chemical composition of the stearopten in oil of rosemary as laurel and borneo camphor.

In Gildemeister-Hoffman-Kremers excellent *The Volatile Oils*, I find under Oil of Thyme the following paragraph: "Thyme Camphor was examined by Lallemand in 1853,¹ who named it Thymol."

Lallemand died in 1886 and pharmacists should remember him in connection with Thymol!

BÉCHAMP.

Antoine (J. A.) Béchamp was born October 16, 1816, in Bassing, near Dieuze (Meurthe) and conducted a pharmacy in Strassburg for many years. He began his scientific career by becoming Agrege at the École de Pharmacie in Strassburg. In 1853 he obtained the degree D.Sc. and in 1856 that of M.D. with a thesis *Sur*

¹ *Journ. Ph. et. Chim.*, III, vol. 24 (1853), 274 and *Compt. rend.*, vol. 37 (1853), 498.

les substances albuminoïdes et par leur transformation en urée. Béchamp became professor of medical chemistry and pharmacy at the University of Montpellier and later of Nancy

Among his many chemical researches, I will mention the following:

Investigation of the fruits of *Gingka biloba*, finding valeric, propionic and capronic acids.

Lessons sur la fermentation vineuse et sur la fabrication du vin, published in 1863, discovering at the same time a dextrogyrate gum in wine.

Reduction of NO_2 to NH_2 forming amides, by means of iron and acetic acid.

Preparation of para-amido-phenyl-arsenic acid.

Investigation of ptomaine-veratrine.

Chlorination process with PCl_3 in 1856.¹

Last of all we must not forget his *Lettres historiques sur la chimie*, published in 1876.

GERHARDT.

Charles Frederick Gerhardt was born in Strassburg in 1816, the son of German parents. He studied under Erdmann and Liebig. Among his many accomplishments in organic chemistry, I want to mention the following: Theory of Residues in 1839; Atomic Weight System in 1842; Homologous Series in 1844 and Theory of Four Types in 1853. Much of this theoretical work was done together with Antoine Laurent and is preserved in *Comptes rendus des Travaux de la Chimie Organique*, which was published in 1853.

Gerhardt also enriched chemistry with the following discoveries: Quinoline in 1842; the Anilides in 1845; Acid Chlorides from POCl_3 in 1851 and Acid Anhydrides in 1852. He wrote *Traité de Chimie Organique*, which was published in 1853.

From 1844-48 he was professor of chemistry at Montpellier, as the successor of Antoine Jerome Balard, the discoverer of bromine. In 1849 he opened a school of chemistry at Paris, which, however, was not a success commercially. In 1855 he was called to fill the chair of chemistry in the Faculty of Sciences at Strassburg where he died on August 19, 1859.

In 1844 he obtained the degree of *Maitre en Pharmacie* and he will be forever remembered in pharmacy as his medallion, the 28th among the 36, adorns the façade of the École Supérieure de Pharmacie in Paris.

RIEDEL.

Gustav Riedel was the oldest son of Johann Daniel Riedel, the founder of the firm J. D. Riedel, Berlin, which has a world-wide reputation. Gustav learned pharmacy under such authorities as Emanuel Merck, the founder of the firm E. Merck, in the Engel-Apotheke at Darmstadt. Upon the death of his father on Feb. 11, 1843, he succeeded him, and through his energy the retail and wholesale business was enlarged. In March 1844, he published a printed price list with 570 preparations in 1847 and equipped his laboratories with steam power, and in 1874 he separated the retail pharmacy from the wholesale drug business.

Gustav Riedel is a splendid example of how energy can enlarge a business,

¹ *Compt. rend.*, vol. 40, 944.

even in pharmacy. The firm J. D. Riedel celebrated its 100th anniversary on March 15, 1914.

OROSI.

Every country has its celebrated pharmacists and Orosi is one of them in Italy. Guiseppe Orosi was born in Pisa on March 17, 1816, of poor parentage. After his father's death he became an apprentice in the pharmacy of his native city. He studied day and night and managed to save 100 liras, the examination fee. Upon passing a most excellent examination, he clerked at Livorno at a salary of 16 lire and 80 cent per month and continued his pharmaceutical studies. He became pharmacist in the Livorno Hospital and also gave a course of lectures on pharmacy and chemistry to students.

Orosi succeeded Prof. Piria at the chemical laboratory Corridi, and later established the laboratory Contessini-Orosi, whose pharmaceutical and chemical products became famous.

In 1849 Orosi was made professor at Florence, but on account of his patriotism was removed by Leopold II, Archduke of Toscana. In 1859 the Provisional Government reinstated him in his position and later he accepted the chair of agricultural and pharmaceutical chemistry at the old University of Pisa. Here he lived a happy life among his colleagues, his family and his pharmaceutical friends and died on December 14, 1875.

The literary activities of Orosi began in 1842 when he translated Dumas' *Lezion di Filosofia Chimica*. His master work is his *Farmacologia Theorica et Pratica—Farmacopea Italiana*, the 1st ed. being published in 1849 in Livorno. This excellent work of 1686 pages had 4 editions, the last of which, Milano, 1876, I am proud to have in my library. One page of this book is also devoted to a bibliography of Orosi's works.

Orosi's *Farmacopea Italiana* is really a dispensatory and similar to Dorvault's *L'Officine*. It must not be confused with the Italian *Pharmacopoeia* or *Farmacopea Officiale de Regno d'Italia*, the first edition of which was published in 1892.

Many of Orosi's students obtained fame, for instance Torquato Gigli, professor of chemistry and toxicology at the University of Pavia, who translated Flueckiger's *Pharmazeutische Chemie*.

Orosi has also been honored as an Italian pharmaceutical journal *L'Orosi* was established in 1877.

DIED IN 1816.

MORVEAU.

Guyton de Morveau, born in Dijon in 1737, began life as a lawyer or *avocat*, but gave up this career to devote himself entirely to chemistry. To him belongs the credit of introducing in 1782 the first rational system of chemical nomenclature, thus replacing the unmeaning names and confusing synonyms. As a result he, together with Lavoisier, Berthollet and Fourcroy, published *Methode de Nomenclature Chimique*.

He was one of the founders of the École Polytechnique at Paris, in which he subsequently became professor. He also occupied the position as Director of the

Mint. By translating the works of Bergman, Scheele and Black he helped to spread the knowledge of chemistry.

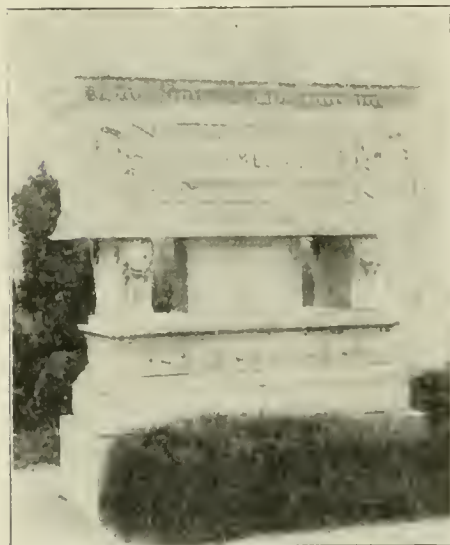
Morveau introduced the process of manufacturing Sal Soda by heating Glauber's Salt with coke and iron. To him we owe the name *Alumina* for Al_2O_3 , which was formerly called Argile (therefore, the term argillaceous earth for clay) by Claude Joseph Geoffroy, Jr.

Morveau, who was also an influential member of the National Assembly and the Convention, died in Paris in 1816.

CRELL.

Lorenz von Crell was born in Helmstedt in 1744, where he became professor of medicine. Science is deeply indebted to him for the publication of several journals. In 1778 he founded the *Chemisches Journal fuer Freunde der Naturlehre, etc.*, which in 1784 became the *Chemische Annalen* and in 1803 was fused with *Allgemeines Journal der Chemie*. These represent the starting point of the extensive German chemical literature. Crell died in Goettingen in 1816.

DEPARTMENT OF PHARMACY, COLLEGE OF JERSEY CITY.



Monument erected over the grave of Dr. Ignaz Philipp Semmelweis by the city of Budapest.



PROF. ROBERT HARE
Inventor of Calorimeter, 1816.

SECTION ON COMMERCIAL INTERESTS, AMERICAN PHARMACEUTICAL ASSOCIATION

COMMERCIAL PHARMACY AND SIDE-LINES.*

BY A. S. COODY.

There has been a great deal of discussion of Commercial Pharmacy, which included subjects and things in no way related to pharmacy. Commercial Pharmacy is the business or financial side of the profession of pharmacy. It is not the business of buying and selling things in a drug store altogether foreign to drugs and medicines.

We find that pharmacy deals with the preservation, preparation, identification and selection of drugs and medicinal preparations and articles. It embraces the preparing of certain substances for administration as medicines for the cure of disease, or to prevent disease. The list of things with which pharmacy is associated will be found in the Pharmacopoeia and standard works relating to pharmacy.

By Commercial Pharmacy we properly mean the very necessary business of buying drugs for legitimate use in the retail drug store, and the selling of the products for use in the treatment of disease. It, of course, includes a system of accounting, and the collection of debts, and the best method of securing money in exchange for the drugs we sell, to the end that pharmacists may have their just share of this world's goods. But Commercial Pharmacy does not mean the buying and selling of so-called side-lines. There is no pharmacy in such business, and while it may be commerce carried on in a drug store, it is not Commercial Pharmacy.

With pharmacy, as with any other profession, there is necessarily a business side to it. The evolution of things makes it essential that we obtain something of value in exchange for the drugs we sell, and since we must buy and pay for them, and live besides, we must, of course, make a profit. So then, Commercial Pharmacy is concerned with profit. It treats of its volume, and the way to make it as large as possible, and at the same time render our customers the very best service for their money.

I do not think any profession has an inherent right to live. I do not think, to borrow an old phrase, that the world owes us a living. I think we should earn the living, and the right to exist. Pharmacy, as well as all other professions, is a sort of privilege. We are granted a license that, in a way, sets us apart from other men. We are protected from unlimited competition, and in return for this we should, by right, render some service in return. We owe it to the public, to the people who grant us this privilege to give them our very best service, to make ourselves efficient, and to so conduct our business that we may give them the very highest service and best results for the money expended.

It is our duty, not only to know thoroughly all about the selection, identification, preservation and preparation of drugs, but we should know the business or financial side, so that we can give good drugs, and for the proper price. The

* Read before the Section on Commercial Interests, A. Ph. A., Atlantic City meeting, 1916.

pharmacist who is careless in his methods of purchasing, who is wasteful in handling drugs, who sells to some and gets no pay, must necessarily charge a higher price for his drugs to those customers who do pay. When he does this, he does wrong.

Commercial Pharmacy should be taught in the schools of pharmacy, and should be a prominent subject for discussion by every association of pharmacists. The pharmacist should be taught the economical methods of doing business, and if he will devote his time to that end he will secure greater financial success for himself, and at the same time serve his customers better than he will by devoting a lot of time to so-called side-lines. Our agricultural teachers are having a great deal to say about intensive farming. I know a farmer personally who produces more on twelve acres of land than the average farmer produces on three times twelve. I am convinced that there is opportunity for some intensive work in the profession of pharmacy, and in other professions as well.

Pharmacists should know all about the unprofessional things with which they must come in contact. By these I mean the things necessarily connected with the running of a modern drug store. Every pharmacist has to deal with the question of a store or shop. He should know how to get one in a desirable location for a proper rental, or if cheaper, own one. He should understand the question of proper ventilation, heating, lighting, etc. In many instances, several hundred dollars a year can be saved in rent, heat and light, merely by the proper utilization of space, location of lights, etc. More money can often be saved in this way than can be made from side-lines. Money can be saved in purchasing the right kind of fixtures and fixtures adapted to the business in hand, and the location. Fixtures for a smaller price oftentimes serve better than more expensive ones.

Practically all pharmacists have to contend with the item of clerk hire. This question is a very important one. Large establishments have men employed to make an expert study of this question. By getting the proper clerks, and assigning them to a certain line of work, and having a definite system, the pharmacist can frequently do more work better with a less number of clerks. My advice is to devote more study here and put in fewer side-lines.

The buying of drugs is entitled to much more consideration than is given by the average retail druggist. By taking advantage of discounts and other things common with the business world, a great deal of money can be saved in this department and can be reflected in increased profits, or in a reduced price to the consumer, as the pharmacist sees fit. Of course the selling end should receive expert attention, and the selling of drugs and not getting pay is a great expense in nearly all stores doing a credit business, that must be added to the selling price, or else settled in the bankruptcy court. The matter of a system of accounting and book-keeping is another department that may profitably receive attention.

I am not an advocate of the complete abandonment of side-lines by the druggists, but always let them be side-lines. The prescription department should not be the side-line and the selling of other things the principal business. I have not a high opinion of a pharmacist who is selling soda water, paint, window glass, newspapers, magazines, cutlery, kodaks, fruit, garden seed, athletic goods, running a luncheonette, and so on *ad infinitum*. I always think that a pharmacist carrying on all these things, is not devoting much time to his profession, and if I were the layman I would go elsewhere for my drugs.

There are certain things that custom has decreed that the druggist should handle and are a part of almost every drug store. But I believe we should discourage the addition of new lines to the drug store and rather reduce the number. Drug stores usually have soda fountains; personally, I do not favor it, however, we will concede that to the drug store. Surgical supplies and dressings properly belong to a drug store; perfumes are largely the product of chemical or pharmaceutical skill, and have come to be a part of the drug business as well as toilet articles of all kinds. We might concede the sale of cigars a place in a drug store. In my opinion, things along the lines indicated should be the end of the side-line business. The pharmacist should devote his time and energy to the things immediately connected with his business and improve that, and not compete with book-stores, hardware stores, department stores, restaurants, etc.

I find a general complaint from pharmacists that the general stores and department stores are taking away the business of the drug stores, but what of the other side of the picture? Can a general store be blamed for selling patent medicines and household remedies, when druggists sell knives, kodaks, fruit, paints, window glass, seed, etc.? If the energy and money spent in putting in side-lines and advertising them were spent in building up and running a drug store as it ought to be run, there would be created a distinct line of work that people would appreciate, and there would be no need of laws to protect the pharmacist in his work. If pharmacy was really made a distinct calling, and only those things handled in a drug store that reasonably form a part of such stock, it would only be a few years before the buying public would never think of purchasing cut rate medicines at a department store sale.

By economy and efficient service, a good many dollars can be saved each year, and also by care and judgment and system in the drug department. There are many leaks and wastes that can be avoided by careful, efficient attention to preservation and conservation of drugs, preparations, utensils and containers.

Some of my druggist friends tell me that there is no longer a profession of pharmacy, that it has become an indistinguishable part of a great mass of small businesses. However, we usually find that the store that is conducted properly is selling the largest percentage of drugs. This shows, to my mind, that the public still prefers a pharmacist to sell them medicines and not a department store.

I have in mind a kind of drug store that can and will succeed in any place where there is enough medicine sold to maintain a pharmacy. It is a store not too large and not too small for the goods it carries. It possibly has a cigar counter in the front, where a selected stock of cigars are sold. It is not a loafing place for gossipers. It is clean and neat, and well arranged. Its stock is not displayed like that of a racket-store, but is well arranged to suggest the articles carried, with the articles themselves kept so they will be preserved and not ruined or soiled by exposure to dirt, flies and light. There is an air of business, of sincerity. A customer instinctively feels that he is in a place where he can purchase an article and know that he is not being deceived; that everything handled and sold is just as represented and that every drug is just what it ought to be. He feels that it is presided over by a man who is supremely interested in his profession. I believe that such a store can succeed anywhere, and by taking this stand the principles of Commercial Pharmacy are rightly practiced.

A NOVEL METHOD OF ADVERTISING A DRUG STORE.*

BY FRANKLIN M. APPLE.

In a recent interview with an old customer, whom I chanced to meet on the street car, I was reminded by him of some very interesting and amusing events that occurred some years ago, when I planned to give publicity to my drug store in a novel manner—one that would be remembered for some months with decided advantages to ourselves. As we resided but a short distance from the grounds of the American Baseball Club of Philadelphia, where the famous "Athletics," managed by the skilled tactician "Connie" Mack, had their home grounds; and as the majority of the male members of the households in our vicinity were ardent "fans," I organized a baseball team, which was known as Apple's Tigers (or Pill Rollers). We sought contests with other teams in our immediate vicinity, which we assisted in assembling, with the result that rivalry soon ran very high, and interesting and amusing contests resulted—some of them resulting in very close scores; and very laughable exhibitions were given by some of the talent, which it is needless to say was purely amateur.

Amongst the opposing teams was one organized by the Congregational Church members, whose house of worship was only two squares distant from my drug store. They were known as the Congregational Crows.

I provided the grounds—that of the "Athletics"—the score cards and the paraphernalia needed by my team, and presented the entire proceeds of the games to the treasury of the Church, which was very gratefully received and was the topic of considerable favorable discussion for months after the games were played. Incidentally I will state that I do not attend services at this Church, hence it was appreciated all the more by the members. As the games were announced from the pulpit—prior to the contests, you can see that we received considerable publicity for our efforts. Other games were arranged for and played with teams, captained by merchants in our section, which served to keep my name before the inhabitants of our vicinity, as we had placards printed and exposed in the windows of the stores within a radius of a quarter mile of our place of business.

Aside from the pecuniary benefits we derived from this venture, the exhilarating exercise was very beneficial to one as closely confined as is the average retail druggist, and served as a pleasing hobby to divert one's mind from the exacting duties of the everyday grind.

The games were reported in a local newspaper that was distributed in our homes, which gave further publicity to our store, without any cost whatever—save a few free passes to the games, and as we had an abundance of vacant seats we did not overcrowd the stands by this procedure.

When re-reading the accounts of these games and bringing to mind some of the amusing features of these contests it is a source of great pleasure I can assure you, as my team was the champion one.

Samples of the score cards are here for your scrutiny; and I hope that this brief narrative may prove to be beneficial to some of my hearers, who can adopt this plan of publicity advantageously.

* Read before the Section on Commerical Interests, A. Ph. A., Atlantic City meeting, 1916.

CONTRIBUTED AND SELECTED

SOME USES OF CHLORAZENE.*

(Dakin's New Antiseptic.)

BY B. L. EICHER.

Great interest being shown in Dakin's New Antiseptic, chemically known as para-toluene-sodium-sulphochloramide, it may be of interest to this body of physicians and pharmacists to know some of the uses it may be put to, and which are not yet generally known.

In the August 1916 number of the *British Medical Journal*, Dr. H. D. Dakin of the Herter Laboratories, New York, tells the results of some work on antiseptics carried out in laboratories at Compiègne supported by the Rockefeller Institute for Medical Research attached to Hospital 21 of the French Army. To quote, he says: "The killing of bacteria by ordinary antiseptic substances is essentially a chemical reaction between the antiseptic on the one hand, and the proteins and cell contents on the other." He recognized the fact that destroying bacteria in water or in test-tubes is comparatively easy, while the destruction of bacteria mixed with blood, serum, pus, etc., is a difficult proposition and worthy of study.

He became interested in Hypochlorites, studied their mode of action and decided that hypochlorites in contact with the $=NH$ group (always abundant in proteins) formed a highly antiseptic $=NCl$ group. Then in coöperation with Prof. J. B. Cohen he prepared certain chloramines which should contain this group, and studied their antiseptic action, later deciding that the most desirable one was para-toluene-sodium-sulphochloramide.

Chlorazene, the trade name applied to it in America, is a white crystalline substance with a faintly chlorous odor, very characteristic bitter taste, soluble 1 in 8 parts of cold water. It liberates, very readily, its chlorine atom in combination with the nitrogen as the NCl group, and its antiseptic properties are due to the readiness with which the NCl molecule combines with proteins, peptones, etc., with which it may come in contact.

Chlorazene has no direct corrosive action even in concentrated solutions, does not precipitate or coagulate protein, such as blood serum, has been demonstrated as being practically non-toxic even when injected hypodermatically on rabbits, and is much less irritating than sodium hypochlorite solution. When its phenol coefficient of 54 is taken into consideration, one may gain an idea of its value as a non-toxic antiseptic.

For general surgical use, a 1 percent solution is strong enough, although if a sign of infection is present a 2 percent is desirable. If stronger solutions are employed, as in war wounds with profuse exudation, the skin if involved becomes irritated and should be protected with vaseline. The most convenient method of use is to pack perforated rubber tubes in the wound beneath the gauze covering, the tubes connected with a larger supply tube, which in turn is connected

* Read before Chicago Branch, A. Ph. A., January meeting.

with the source of supply. At regular intervals of one to two hours, enough of the chlorazene solution is allowed to run through the tubes to saturate the gauze packing. Such a procedure is possible with hypochlorite solution only in strengths between 0.45 percent and 0.5 percent and increase of 0.1 percent showing very marked irritation. Hypochlorite solution has the added disadvantage of being very short-lived when exposed to organic matter.

In eye infection a 0.1 percent is good, while for nose and throat use, a 0.1 percent to 0.2 percent solution is desirable especially when dissolved in a 0.7 percent salt solution. In bladder and urethral cases a 0.25 percent solution is very efficacious.

Oily combinations of chlorazene do not keep well, but a 1 percent to 2 percent jelly with sodium stearate is very staple. Dr. Carrel spreads a 0.7 percent jelly over the wound after thoroughly cleansing with chlorazene or hypochlorite solution. The writer has made 1 percent jelly with tragacanth and only enough of a volatile oil to cover the chlorous odor. This keeps perfectly, and makes a very good lubricant for surgical purposes provided instruments are not kept in it too long. Chlorazene attacks iron fairly rapidly, copper and brass less so, while silver, nickel and aluminum are hardly attacked at all.

In bad war jaw cases, it has not been specially noticed to injure fillings, and a 0.5 percent solution has not appeared to affect the enamel of the teeth. The writer has made a tooth-powder containing 0.5 percent of the antiseptic in combination with saccharin, myrrh, precipitated chalk and sodium bicarbonate, using oil of cinnamon to mask the slight odor of the chlorazene. The powder is pleasantly flavored, causes the peculiar frothing in the mouth of a very weak solution of hydrogen peroxide, and causes the cleanly feeling after use, of that solution.

Another use which will probably become very popular, is in preparing an antiseptic gauze. We have but three or four substances in medicine which can be used in gauze for an antiseptic dressing, and they are either irritating or they possess an undesirable odor. Chlorazene will render a gauze antiseptic, and it may be packed into a fissure without irritation. The scientific branch of the British Medical Journal reports that a 4 percent gauze is the most antiseptic and satisfactory gauze made. The writer has made a sample containing 25 percent of the antiseptic—a higher strength than would ever be necessary.

When we consider the antiseptic power of this new substance, the fact that it is stable, and that it is non-toxic, it is hard to see why it should not take the place of the poisonous and perishable preparations now on the market.

UNIVERSITY OF ILLINOIS,
SCHOOL OF PHARMACY.

HIGHER EDUCATION FOR PHARMACY AND ITS RELATIONSHIP
TO HIGHER EDUCATION IN MEDICINE.

BY C. FERDINAND NELSON, PH.D.*

The last quarter of a century has witnessed remarkable strides in the progress of the practice of medicine in America. From a haphazard, comparatively poorly educated, and all too mercenary a profession, inadequate as an instrument for the public good, it has emerged a powerful, well-organized, liberally educated, scientific and humanity-serving body. The laws regulating the practice of medicine in most of our states have been revised and strengthened. Preliminary educational requirements have been raised to a high level, the professional training time lengthened and made far more thorough than the leaders of the past generation ever thought possible or dared to hope for. The open sesame to all of these remarkable achievements is found in four simple words—Higher education for medicine.

Two powerful influences, one operating from within, the other from without, have contributed to make the profession of medicine what it is to-day. With the establishment in 1905 of the Council on Medical Education, the members of the American Medical Association placed their official approval on educational reform. From this time on the profession committed itself on educational matters wholly to the program and action of its council on education. The wisdom of this move on the part of the Association has long been evident. The council has succeeded in overcoming much of the prejudice existing toward higher education; personal and commercial interests have been conquered in many cases; a successful educational campaign has been conducted which has been productive of untold good to the public as well as to the profession itself.

The other powerful influence for educational reform in medicine came from without and through the Carnegie Foundation for the Advancement of Teaching. Fearless and impartial from the start, the foundation first laid bare, through Dr. Flexner's report in 1910, the conditions that actually obtained in the medical schools and colleges of the United States and Canada. President Pritchett in his report for the same year voices the foundation's attitude on medical education in these words: "The medical practitioner of these opening years of the 20th century should be an educated man, his conscience sensitive to the social importance of general physical well-being, his intelligence quick to follow the progress of medical education." Two years later Dr. Flexner's report on Medical Education in Europe appeared. This report and the one previously mentioned, covering the field as they do, have since been the source books for educational advance in this country. The telling blows from within, aided by the drive from without, have spelled professional and educational victory for medicine in glowing letters.

One of the mightiest problems of modern society is that dealing with the prevention, amelioration and cure of sickness and disease. Its successful solution not only holds out health, happiness and long life to the individual but also virility and strength to the race; it promises a lessening of crime and bids fair to reduce the suffering and miseries of poverty. One cannot wonder at the interest leaders

* Associate Professor of Physiological Chemistry, University of Kansas, Lawrence.

in social and educational movements are taking in bringing about more healthful conditions in every walk and avenue of life.

It is generally assumed that the solution of this problem—the problem of health and disease—belongs to the medical profession. Surely the many lay influences brought to bear, in recent years, on the question of higher education in medicine have emanated primarily from a desire to create a noble profession capable of such a vast task, rather than from any mere desire to bring about educational reform. We may well assume that the reasons the energies of the Carnegie Foundation, along lines of professional education, were first directed towards medicine rather than law and engineering lay in the fact that the possibilities for public good were here more promising and of greater moment. This once begun and well under way, we find that the Foundation has later taken up educational reform in these professions. But the profession of medicine can not solve this problem alone, although a large part of it will undoubtedly fall to its share. We must glory in every educational advance making it more and more capable, and yet not forget that the smaller, to-day much less thought of, but nevertheless essential profession of pharmacy must come in for its share of proper attention if the task is to be completed successfully.

Medicine and pharmacy are essentially complementary professions. We lose sight of this fact too often, probably because we are prone to judge the whole profession by the behavior of the men who commercialize it most. Much of retail pharmacy is to-day steeped in commercialism. This must be admitted. It is so deeply submerged that the pharmacist's professional status is very low, does not exist, in fact, in many cases. The thoughtful pharmacist knows this himself only too well, but conditions which prevail are such that he cannot pull himself out unaided. The introduction of innumerable side lines such as toilet articles, cigars, soda water, and lunches of one sort or another has inevitably tended to make many forget what their real occupation is, and yet when all is said the retail pharmacist does still perform a professional service to the public. He does help solve the problem of health and disease. But our retail practice should be made professional in a much larger sense, and it may be, if we insist on it strongly enough.

The retail side of pharmacy is but one side of the profession. We see a more scientific side in our large pharmaceutical houses. A great many of the graduates of our schools of pharmacy have found their life work in these institutions and are here doing splendid service. The doctor who carries his own drugs often has little respect or use for the services of the pharmacist. He forgets that a pharmacist has, after all, prepared the articles he himself dispenses. The modern internists, who depend on a few drugs or an essentially drugless therapy, may feel for the moment that the pharmacist does not count for much; the teacher of preventive medicine may argue that drugs are a thing of the past and the pharmacist no longer needed; and yet a deeper analysis of conditions will easily reveal to them that the pharmacist holds his place and is as necessary as ever.

It is true that the materia medica of to-day is much smaller than it was ten years ago but, if so, it is because the pharmacist by making preparations from the largest possible sources has enabled the physician by trial to find out which are best. There will always be a materia medica; preventive medicine will have one.

It may be small, even smaller than it now is, but it will persist. It may not have plasters, pressed herbs, ointments, cataplasms, or the grand variety that now exists but it will include active principles, synthetic products and inorganic chemicals of some sort. These are absolutely essential, and they require a corps of men trained in chemistry, pharmacology and botany to manufacture, prepare and dispense. The pharmacist's field is definite, independent, essential, and can no more be excluded in attempting to solve the problem of health and disease than preventive medicine can hope to do away with surgery or internal medicine. Humanity will ever continue to err and will be in need of repair of some sort. Food, rest and physical manipulation may do much to relieve conditions, but never will the time come when all of the pharmacist's products may be dispensed with.

If the pharmacist's field, then, is definite, essential and indispensable as we believe, the profession of pharmacy must take its place by the side of the profession of medicine and with it march onward to accomplish its task in solving the problem we have been discussing. This necessitates a readjustment, a new emphasis, newer ideals, more rigorous training for our young men. The gap that now exists between the professions must be bridged. We need the telling blows from within and the drive from without that have been so beneficial to medicine to accomplish these results.

The safest guarantee of high quality and character of any profession is best secured through high and rigid preliminary educational requirements. Professional skill, superimposed on a narrow general educational foundation, is unsafe and lacks the perspective necessary for future independent growth. Rarely, if ever, can a meager training be productive of the best. Medicine has proven this to its own satisfaction and has not hesitated in recent years to make drastic changes in its educational policy.

The preliminary educational training time in medicine is at present on an average two to three years longer than in pharmacy. The time of professional study is also two years longer. While there is no argument *a priori* that these periods of study should be equal for physician and pharmacist, nothing but good can possibly come from approximating them, particularly the preliminary requirements. This cannot be done in a day, nor in fact in years, but the beginnings of a definite movement along this line should be made at once. Whether it comes first from within or from without does not matter, but let us hope it will come and come soon.

Coincident with our forward progress in preliminary educational requirements and professional training should and must come a readjustment in our retail practice. If American pharmacy is to take its part in helping to make our country a better and healthier place to live in, and it must do this or die an ignoble death, the American pharmacist must feel that he has a higher duty to perform than the retailing of household remedies, cosmetics and toilet articles. We may have to continue for a long time to sell these things but our chief interests must not center themselves here. We must away from this type of commercialism if only in spirit. One too often hears representative pharmacists belittling the drug side of their business: "It amounts to very little with me," or "I don't get any prescriptions any more; if I didn't sell other things I'd have to go out of business." These phrases are true and we will hear more and more of them as the years go on, unless we set about to readjust ourselves to the times we are living in.

How can we do this? First of all, we must learn to make use of the education we get in our schools of pharmacy. We must fully realize that when the state board examination is passed or the college diploma is handed to us that our real professional work and service is to begin in earnest. From this point we should push forward and develop the opportunities which our training has fitted us for. Surely, the college of pharmacy does not exist for the sole purpose of teaching a pharmacist how to fill a physician's prescription and prepare half a hundred odd now seldom used galenical preparations. None of our reputable schools do only this. They offer a basal education along lines far more valuable to enterprising young men.

It may be that the reason we are not making use of our college training in the way we should is to be found in the fact that our professional horizon is narrowed and shut in by a huge row of prescription blanks. Probably, too, our professional sun is nothing but an illegible scrawl on another prescription blank. We must get a new point of view on the value of prescription filling. This is not the pharmacist's only function, nor should it be his chief concern necessarily. Prescriptions are going out of fashion, or rather modern medicine is limiting the number. This is an inevitable result of medical progress. Prescriptions will continue to be written in the future and will always constitute one important phase of the pharmacist's work, but he can well afford to devote three-fourths of his present prescription case to other uses. Let us take down our large prescription sign and put up a smaller, even neater one. We should frankly give up the idea of prescription filling as an ideal for pharmacy. There is no use clinging to it exclusively, and there is far more important work that is truly professional for us to do.

Modern research has demonstrated the value of laboratory methods in every walk of life. The laboratory is here to stay and their numbers are sure to increase. In medicine, laboratory methods and tests have become indispensable to the simplest diagnosis. In public health and sanitary work of all sorts men with chemical and bacteriological training are in constant demand. The young men that leave our schools of pharmacy have a good general training in chemistry and quite often also in bacteriology. Why should they not make use of this information?

The drug store has always been the local laboratory for physicians' prescriptions. Why may it not in the future function as the local chemical, bacteriological, sanitary and industrial laboratory? This move would serve the times we live in. By becoming chemical, bacteriological and sanitary advisers in our respective communities, we would help solve the problem of health and disease in these places. We could and would still be pharmacists. There is no incompatibility in these two lines of endeavor. Our stores are practically laboratories as they are. The technical education we now receive could be put to its best use in this way. Our training and general education would soon be made as thorough as it now is in medicine and the professions co-equal. Higher education can do for pharmacy what it has done for medicine. We should work towards a realization of equality of training in the two professions. President Pritchett's remark previously quoted may well read, "The pharmacist of the opening years of the 20th century should be an educated man, his conscience sensitive to the social importance of general physical well-being, his intelligence quick to follow the progress of pharmaceutical and medical thought and activity."

Contributed by the Chairman:

SPECIES OR TEA-MIXTURES.

This is one of the oldest forms of "household remedies," still largely in use, especially among foreigners.

They are mixtures of whole or comminuted plant drugs. Species are employed for the preparation of internal medicines and also for external applications or for baths. When used for infusions or decoctions or for maceration or for a bath, the drugs are cut or bruised as, f. i., Species Pectorales N. F. When intended to be filled into flannel bags, which are to be heated and applied dry as a cataplasm, then the drugs should be finely cut or coarsely ground, f. i., Species Aromaticae, see below. Species which are to be mixed with hot water to form a poultice should be in the form of a coarse powder, f. i., Species Emollientes N. F.

The formulas for these Species differ somewhat in the various Pharmacopoeias and Formularies. The source of these is given for which there is an occasional demand.

In the collection of formulas herewith presented, the degree of comminution is stated, as well as the uses of the Species.

No. 477.

SPECIES AROMATICAE.

Aromatic Species or Herbs.

D. A.—B. V.

Peppermint.....	
Lavender Flowers.....	
Wild Thyme.....	
Thyme, of each.....	2 parts
Clove.....	
Cubeb, of each.....	1 part

The first five ingredients are finely cut and mix with the ground cubeb.

Used as a carminative and against colic in the form of dry or wet poultices. For a bath from 100 to 500 Gm. are used.

No. 478.

SPECIES DIURETICAE.

Diuretic Species or Tea.

D. A.—B. V.

Rest Harrow Root.....	
Lovage Root.....	
Juniper Berries, N. F.....	
Glycyrrhiza.....	equal parts

Cut the roots coarsely and mix with the crushed berries.

As a decoction, using 1 tablespoonful to 3 cups of water and evaporating to 2 cups of tea. As the name indicates it is used as a diuretic, especially in dropsy.

No. 479.

SPECIES LIGNORUM.

Wood Tea.

Holzthee.

D. A.—B. V.

Rest Harrow Root.....	3 parts
Guaiaec Wood.....	5 parts
Glycyrrhiza.....	1 part
Sassafras.....	1 part

Cut coarsely and mix. Used in the form of a

decoction in the same proportion as Species Diureticae. Diaphoretic and so-called blood-purifier.

No. 480.

SPECIES ALTHAEAE.

Althaea or Marshmallow Tea.

Eibischtee.

Ph. Aust. VIII.

Althaea Leaves, N. F.....	55 parts
Althaea Root.....	25 parts
Glycyrrhiza.....	15 parts
Blue Mallow Flowers.....	5 parts

Make into coarse species. Used as infusion against coughs.

No. 481.

SPECIES AMARICANTES.

Species Amarae.

Bitter Species or Tea.

Bittertec.

Ph. Aust. VIII.

Absinthium.....	
Bitter Orange Peel.....	
Centaury, N. F., of each.....	20 parts
Calamus.....	
Gentian.....	
Menyanthes, N. F., of each.....	10 parts
Cinnamon.....	5 parts

Make into coarse species. Used as a bitter tonic in the form of an infusion or macerated in wine or liquor.

No. 482.

SPECIES CARMINATIVAE.

Carminative Species or Tea.

Ph. Aust. VIII.

Althaea.....	
Glycyrrhiza.....	
Triticum, of each.....	20 parts
Matricaria.....	
Fennel, of each.....	10 parts

Make into coarse species.

No. 483.

SPECIES PUERPERALES.

Species Puerperarum.

Tea for Lying-in-Women.

Kindbettee.

Ph. Aust. VIII.

Melon Seed.....	
Mullein Flowers, N. F., of each.....	10 parts
Glycyrrhiza.....	
Triticum, of each.....	20 parts
Althaea Species.....	40 parts

Make into coarse species. Used as a demulcent infusion in confinement.

No. 484.

SPECIES STOMACHICAE.

Stomachic Species or Herbs.

Magentee.

Ph. Aust. VIII.

Cinnamon.....	
Peppermint, of each.....	1 part
Centaury, N. F.....	2 parts

Make into coarse species. Used as carminative and tonic either as infusion or by maceration, in wine or liquor.

No. 485.

SPECIES AD GARGARISMA.

Herbs for Gargling.

E. B. III.

Althaea Leaves, N. F.....	
Mallow Leaves, N. F.....	
Sambucus, N. F.....	equal parts.

Make into coarse species. Used as a gargle in the form of an infusion.

No. 486.

SPECIES AD LONGAM VITAM.

Long Life Herbs.

Schwedische Kraeuter.

Bitterer Ansatz.

E. B. III.

Aloe, granulated.....	6 parts
Myrrh, granulated.....	
Rhubarb.....	
Gentian.....	
Galanga, N. F.....	
Zedoary, N. F.....	
Crocus, N. F.....	
Theriac, of each.....	1 part
Agaric, N. F.....	2 parts
Triturate theriac with coarsely ground agaric and mix with aloe and myrrh and other drugs previously cut.	

A very popular remedy, especially among foreigners. About 50 Gm. are macerated in 500 mls of liquor, wine or cider during 3 days and then strained. Dose: A teaspoonful 3

times a day as a stomachic tonic and against other ailments.

No. 487.

SPECIES ANTI-ASTHMATICAE.

Asthma Species or Herbs.

E. B. III.

Stramonium.....	63 Gm.
Lobelia.....	12 Gm.
Potassium Nitrate.....	25 Gm.
Water.....	50 mls
Oil of Lavender, a sufficient quantity	

The drugs, previously cut, are moistened with a solution of the saltpeter in hot water. The mixture is then well dried at about 40° C.

To each 100 Gm. of the dried Species add 4 drops of Oil of Lavender, which is best previously dissolved in a little Alcohol.

Used in asthma by inhaling the smoke from the burning powder.

No. 488.

SPECIES ANTHELMINTHICAE.

Worm Species or Tea.

D. M.

Absinthium, N. F.....	
Farfara, N. F.....	
Santonica, U. S. P. VIII.....	
Matricaria.....	equal parts

No. 489.

SPECIES GYNAECOLOGICAE MARTIN.

Confinement Species.

Martin's Tea.

E. B. III.

Senna.....	
Frangula.....	
Millefolium.....	
Triticum, equal parts.....	

Make into coarse species. Used as a demulcent and mild laxative in the form of an infusion.

No. 490.

SPECIES NERVINAE.

Nervine Tea.

E. B. III.

Peppermint.....	
Menyanthes, N. F.....	
Valerian.....	equal parts
Make into coarse species.	

No. 491.

SPECIES PECTORALES CUM FRUCTIBUS.

Breast Tea with Fruits.

E. B. III.

Pectoral Species, N. F.....	16 parts
Barley, peeled.....	4 parts
St. John's Bean.....	6 parts
Fig, N. F.....	3 parts
Cut fig and St. John's bean coarsely and	

mix with other ingredients. A modification of "Breast Tea," still in demand.

No. 492.

SPECIES RESOLVENTES.

Reducing Species or Herbs.

E. B. III.

Melissa Leaves.....
 Origanum Herb, of each..... 7 parts
 Lavender Flowers.....
 Sambucus, N. F.....
 Matricaria, of each..... 2 parts
 Make into coarse species. Used as a softening poultice.

No. 493.

SPECIES SUDORIFICAE.

Sudorific Herbs.

Especies Sudorifiques.

Codex 1884.

Sarsaparilla.....
 Sassafras.....
 Guaiac Wood.....
 Cinchona..... equal parts
 Prepare coarse species.

No. 494.

SPECIES DEMULCENTES.

Demulcent Tea.

Ph. Dan.

Althaea..... 4 parts
 Glycyrrhiza..... 1 part
 Linseed..... 4 parts
 Fennel..... 1 part
 The cut roots and crushed seeds are mixed.

No. 495.

SPECIES VULNERARIAE.

Vulnerary Herbs.

Especies Vulneraires.

The Suisse.

Codex 1908.

Absinthium, N. F.....
 Betonica.....
 Calamintha.....
 Chamaedrys.....
 Hyssopus.....
 Glechoma Hederacea.....
 Origanum.....
 Vinca Minor.....
 Rosmarinus.....
 Salvia, U. S. P. VIII.....
 Scolopendrium.....
 Scordium.....
 Thymus, N. F.....
 Veronica.....
 Arnica, U. S. P.....
 Gnaphalium Dioicum.....
 Farfara, N. F..... equal parts

Prepare coarse species. This is an excellent example of polypharmacy and also of the odd

drugs employed by other nations. Among the 17 ingredients only 1 drug is official in U. S. P. IX, 1 drug was official in U. S. P. VIII and has been deleted and 3 drugs are official in N. F. IV. A number of the ingredients are undoubtedly unknown to the average pharmacist. All of these plants are, of course, official in the French Codex. The botanical titles, rather than the English names, are given, so as to prevent any confusion.

No. 496.

SPECIES APERIENTES.

Aperient Species.

Ph. Hisp. & Port.

Radix Apii.....
 Radix Asparagi.....
 Radix Foeniculi.....
 Radix Petroselin.....
 Radix Rusci Aculeati..... equal parts

This is another rather odd or "Spanish" combination of peculiar drugs. On account of the "Five Roots" this mixture also has the synonym *Radices Quinque Aperitivae*. To prevent confusion the Latin titles are given.

No. 497.

SPECIES NARCOTICAE.

Narcotic Species or Herbs.

Ph. Russ. IV.

Belladonna Leaves..... 1 part
 Hyoscyamus..... 2 parts
 Conium Leaves..... 4 parts
 Prepare coarse species.

No. 498.

SPECIES ANGLICAE.

English Species or Tea.

D. M.

Caraway..... 25 Gm.
 Bitter Orange Peel..... 25 Gm.
 Frangula..... 150 Gm.

Make into coarse species.

No. 499.

SPECIES BALNEORUM.

Bath Herbs.

Badckrauter.

D. M.

Peppermint.....
 Matricaria.....
 Thyme, N. F.....
 Rosemary.....
 Sage, U. S. P. VIII, of each..... 100 Gm.
 Alcohol, 90 per cent..... 250 Gm.

The mixture of herbs is moistened with the alcohol, whereby the bulk of the package is materially decreased, and the appearance of the species and especially their odor is greatly improved. One package to a bath.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

BALTIMORE.

The March meeting of the Baltimore Branch of the American Pharmaceutical Association was called to order by the President, Robert S. McKinney, in Harris Hall, of the University of Maryland, on March 21, 1917.

Upon motion of Dr. Chas. Caspari, Jr., the motion being duly seconded, the reading of the minutes of the February meeting was omitted.

A letter from the Columbus Branch of the American Pharmaceutical Association inviting consideration of the resolutions they had adopted, in which they opposed any increase in the annual dues of the Association and approved the continued publication of the Year Book, was read by the Secretary. It was moved and seconded that the discussion of this letter be postponed until the next meeting.

A request for papers to be read before the Scientific Section during the annual meeting of the A. Ph. A. was received from Dr. W. W. Stockberger, of Washington, D. C., and President McKinney urged the members of the Branch to contribute such papers.

As the Branch considered that the members of Congress are absorbed in dealing with the grave matters that now confront our nation, action was postponed in regard to a letter from the Columbus Branch of the A. Ph. A. denouncing the misuse of the Copyright and Patent Laws of the United States for the exploitation of foreign products, and requesting that the local Branch petition our Representatives in Congress to enact such legislation as would free this country from this foreign exploitation.

Dr. John F. Hancock, whose long and active career brought him in contact with the pioneers of pharmacy in Maryland, then gave some "Reminiscences of the Early Days of Pharmacy in Maryland," including a history of the early life of the Maryland College of Pharmacy. He related how the College of

Pharmacy was first started in 1840, and that after two classes had been graduated, it lapsed and was not reorganized until 1856. He told how the preparation for the entertainment of the American Pharmaceutical Association, which met in Baltimore in 1856, aroused interest in pharmacy in Maryland and caused the reorganization of the Maryland College of Pharmacy. He reminded us that Dr. Van Dyke Stewart was the first professor of pharmacy in the United States, stating that Dr. Stewart received the degree from the University of Maryland in 1844 and was then elected professor of Theoretical and Practical Pharmacy in the Maryland College of Pharmacy. Reference was made to the fact that in 1856, Mr. Israel Graham of Maryland was the pioneer who first experimented with the manufacture of fluidextracts by percolation. He spoke of the great work of William Procter, Jr., a Baltimorean by birth, and also of the work of scores of other pioneers of pharmacy in Maryland.

Dr. Hancock is now compiling a paper for the Historical Section of the American Pharmaceutical Association, dealing with the early history of pharmacy in Maryland, which will probably be presented at its next annual meeting.

The interesting talk given by Dr. Hancock caused several of the other members—Dr. Chas. Caspari, Jr., Mr. John B. Thomas and Mr. Louis Schultze—to speak of their early experiences in pharmacy.

Upon motion of Mr. Jno. B. Thomas, a rising vote of thanks was tendered Dr. Hancock for his excellent presentation of the matter and the meeting was adjourned.

B. OLIVE COLE, *Secretary*.

CHICAGO.

The Chicago Branch American Pharmaceutical Association met in regular monthly

meeting Friday evening, February 23, at Kuntz-Remmlers, following supper at 6.30.

Mr. L. D. Jones presented a new device for introducing breathing in new born infants afflicted with asphyxia neonatorum or for resuscitating infants or little children with asphyxia from other causes. His talk was well received.

The principal subject of discussion was the report submitted by Dr. J. H. Beal for the committee appointed at the January meeting to consider the matter of Compulsory Health Insurance.

In concluding his report, Dr. Beal stated that this subject of Compulsory Health Insurance was the most deserving of study of any legislation yet placed before the druggist. It is more important than the Food and Drugs Act or the state pharmacy acts. Either it sounds the death-knell of what little drug business remains to the pharmacist or it restores to him a real drug business.

Dr. Bernard Fantus endorsed the report as whole, especially the recommendation that we continue to study the whole subject in a purely judicial frame of mind, and to reach conclusions that shall be as nearly as possible devoid of partisan bias or prejudice growing out of our professional relations to the sick. He considered that it would be a most suicidal policy to antagonize the bill just because it would take the bread and butter from our mouths. The position of the physician, pharmacist and nurse should be definitely assigned and defined in the bill before we can offer intelligent criticism. The interested professions should be prepared to offer suitably drawn sections covering their ideas as to the positions these professions should occupy under the laws.

Many others took part in the discussion, though the general opinion seemed to be that the subject required extensive study and that hasty action on the part of state legislatures to enact such a bill into law should be deprecated and strongly opposed.

It was moved by W. B. Day and seconded by Thos. H. Potts that the report of the committee with recommendations be endorsed and referred to Editor Eberle for publication and that a vote of thanks be extended to the chairman and his colleagues for the excellent report.¹

E. N. GATHERCOAL,
Secretary.

NASHVILLE.

The regular monthly meeting of the Nashville Branch of the American Pharmaceutical Association was held in joint session with the Nashville Drug Club, March 15, 1917, D. J. Kuhn, presiding. Besides a good turn-out of members, there were representatives present from the Retail Grocers' Association and Retail Furniture Dealers' Association.

The minutes of the previous meeting were read and approved. Judge J. H. Zarecor spoke on "License and Taxation," explaining the different methods used by the government to raise revenue, among others the collection of taxes from retail merchants for the privilege of doing business in the state. He stated that foreign companies, such as the Larkin Company, were doing business in the state in competition with the local merchants without paying any tax whatever, claiming to be exempted on account of doing an interstate business. According to him, these foreign companies are liable to taxation and some steps should be taken to enforce this law. The question was discussed at some length by M. T. Mallon, of the Grocers' Association; Walter Sanford, of the Furniture Dealers' Association, and Ira B. Clark, D. S. Sanders, S. C. Davis and C. S. Martin. A committee was appointed, consisting of D. S. Sanders, S. C. Davis and D. J. Kuhn, to confer with the Grocers' and Furniture Dealers' Associations in order to take some concerted action against this unfair competition. They were also given the power to fight against the alleged formation of an Ice Trust for the advancement of the price of ice.

Resolutions were read from the Columbus Branch of the A. Ph. A., urging Congress to amend the patent laws, and were unanimously adopted, copies to be sent to the representatives in Congress. Discussions followed on the effect of the expiration of the patent on aspirin and uses and limitations of denatured alcohol. C. S. Martin suggested that if physicians would prescribe alcohol and combine it with some denaturizing substance, no federal or state taxes would be required in order to handle it. W. R. White thought that a small percent of iodine might prove a good agent to denaturize it for antiseptic purposes. E. J. Schott, Ira B. Clark and S. C. Davis were appointed a committee to investigate the subject and visit the Academy of Medicine and discuss it with them.

WILLIAM R. WHITE,
Secretary.

¹ The report was printed in the March number of the JOURNAL, pp. 314-317.

NEW YORK.

The January 1917 meeting of the New York Branch of the American Pharmaceutical Association was called to order by President Lascoff in the library of the New York College of Pharmacy on Monday, January 8, at 8.30 P.M.

Twenty-six members were present.

The minutes of the previous meeting were approved as read by the Secretary.

The Treasurer's report was accepted with thanks.

Member of the Council, Mr. McElhenie, was not present and no report was rendered.

Chairman McCartney, of the Membership Committee, presented the applications for membership in the parent body of John D. F. Dreyer, 41 John Street; George E. Fitzsimmons, 1045 Lexington Avenue; William E. Gifford, 203 Fulton Street; Charles A. Loring, 145 Front Street, all of New York, and William F. Morgan, 136 Meserole Avenue, Brooklyn, N. Y., and Miss M. A. O'Connor, 19 Church Street, White Plains, N. Y., as well as the application of Mr. C. L. Eddy, for membership in the Branch.

The report was accepted with thanks and the Secretary was ordered to forward the six applications to General Secretary Day.

Committee on Legislation and Education.—Dr. Anderson being absent, no report was received.

Committee on Fraternal Relations.—Chairman Diner explained what was being done by the County Medical Society in preparation for the joint meeting and moved that the Secretary send invitations to all members of the American Pharmaceutical Association and other pharmaceutical organizations, and that the pharmaceutical press be urged to feature the meeting.

The report and motion were adopted.

Progress of Pharmacy.—Dr. Diekman read a very interesting report which led to an animated discussion.

Mr. C. O. Bigelow reported on the narcotic hearing held before the Legislative Committee and Chairman Holzhauer of the Nominating Committee presented the following nominees:

President, Joseph L. Mayer; *Vice-President*, F. L. McCartney; *Treasurer*, Joseph Weinstein; *Secretary*, Hngo H. Schaefer; *Member of the Council*, Jeannot Hostmann; *Chairman, Committee on Education and Legislation*, Charles Lehman; *Chairman, Committee on Progress of Pharmacy*, George C. Diekman;

Chairman, Membership Committee, Herman Walter; *Chairman, Committee on Fraternal Relations*, Jacob Diner.

The report was adopted and the Committee discharged with thanks.

The Secretary read an invitation to attend the dinner of the Bronx County Pharmaceutical Association and on motion same was placed on file and the members urged to attend.

The resignation presented by Mr. Lorenz Canton was accepted.

The Secretary then read the following communication:

DEAR SIR:

At the last meeting of the Philadelphia Branch, during a discussion on the question, "What Disposition Shall be Made of the Year Book?" the following points were emphasized:

1. The A. Ph. A. gives each member more than his dues will pay for, hence each year there is a deficit. This must be met with an increase in revenue or decrease of expenditures. The former can be brought about only by an increase of dues; the latter, most feasibly either by discontinuing the Year Book, or publishing it in the JOURNAL from time to time.

2. The continuance of the Year Book is absolutely necessary for the progress of American Pharmacy, for it is only by the use of this and allied works that any progress is made. Were it not for this systematized and carefully indexed account of what has been done, information which can now be obtained in a few moments, would only be available after an extended, time-and-patience-consuming search through many journals.

In accordance with this view, the following resolution was proposed and adopted:

RESOLVED, That the Philadelphia Branch go on record as favoring the continuance of the JOURNAL and the Year Book as at present, and that any deficit which might occur be met by an increase in dues; and further, that the Secretary be instructed to send copies of this resolution to the Council and to the Secretaries of the various local branches.

Very truly yours,

(Signed)

J. ED. BREWER,

Secretary.

After a very spirited discussion, the following motion made by Professor Army was adopted: That the President appoint a committee of three to study the question raised in the resolutions passed by the Philadelphia Branch,

said committee to report at the next regular meeting and that the Secretary of the Branch notify the secretaries of all branches of this action.

President Lascoff appointed the following to be such a committee: H. V. Army, F. L. McCartney, Jeannot Hostmann.

Mr. C. L. Eddy, who had been proposed for membership in the Branch, was then regularly elected.

Election of Officers.—Upon motion, President-elect Charles Holzhauer of the parent association was called upon by President Lascoff to cast a ballot regularly electing the candidates presented by the Nominating Committee. Mr. Holzhauer so voted, and the aforementioned candidates were declared to be duly elected.

Dr. Diner, as Chairman of the delegation to the meeting of the American Metric Association, rendered his report which was accepted with thanks.

The Secretary read his report, bringing out among other points, that 108 members had been elected during the year and that four had resigned, leaving a net membership of 252. This report was ordered filed.

President Lascoff asked Messrs. Turner and Horstman to escort the newly elected officers to their chairs.

A vote of thanks was extended to the outgoing officers and the meeting then adjourned.

JEANNOT HOSTMANN,
Secretary.

A joint meeting of the Medical Society of the County of New York and the New York Branch of the American Pharmaceutical Association was held February 20, 1917, in Hosack Hall, New York Academy of Medicine, 17 West 43rd Street.

The meeting was opened at 8.45 P.M. by Dr. J. Bentley Squier, President of the Medical Society of the County of New York, in the chair.

About fifty members were present.

Scientific Program.

"The Modern Trend of Professional Pharmacy," by George C. Dickman, M.D.

"The Physician's Vital Need," by Jacob Diner, M.D.

"Stemming the Tide," by Walter A. Bastedo, M.D.

"Facing the Future," by Daniel S. Dougherty, M.D.

The following resolutions were presented by

Dr. Dougherty and discussed by Dr. Weiskopf:

WHEREAS, Professional pharmacy, judged by what we have heard tonight, seems to be in a condition to be much deplored; and

WHEREAS, Pharmacy and pharmacists are essential to the practitioner of medicine and his co-operation essential to the welfare of the pharmacists; and

WHEREAS, The suggestions presented for the correction of the existing evils seem to be practical and promising; therefore be it

RESOLVED, That a committee of six be appointed, three by the President of the Medical Society of the County of New York and three by the President of the New York Branch of the American Pharmaceutical Association, to study the subject and devise ways and means to place pharmacy on a proper basis and establish a closer co-relation between the pharmacist and physician.

This committee to report at such time and place and in such manner as may be determined by the Presidents of the respective bodies.

On motion duly made and seconded, the resolutions were adopted.

HUGO H. SCHAEFER,
Secretary.

The March 1917 meeting of the New York Branch of the American Pharmaceutical Association was called to order by President Mayer in the library of the New York College of Pharmacy, on Monday, the 12th, at 8.30 P.M. Fifty-one members were present.

The minutes of the January and February meetings were read and approved.

A motion was made, seconded and carried that the President be authorized to appoint a committee of three to co-operate with a similar committee of the Medical Society of the County of New York in accordance with the resolution adopted at the February meeting.

President Mayer appointed the following members to constitute this committee: Jacob Diner, J. H. Rehfuß, Robert G. Lehman.

The Treasurer's report was read and accepted.

After some discussion, upon motion duly seconded and passed, the Treasurer was authorized to drop from the membership list of the Local Branch at his and the Secretary's discretion, such members who owed dues for over two years.

Mr. Latham volunteered to personally interview members who were delinquent in paying dues and try to collect same.

Member of the Council.—Professor Hostmann's report was accepted with thanks.

Chairman Walter, of the *Membership Committee*, presented the applications for membership in the parent association of Jacob Feldman, 321 Pleasant Avenue; Miss Fanchon Hart, 115 West 68th Street; Theodore R. L. Loud, 270 Ft. Washington Avenue; Julius Ginsberg, 333 East 16th Street, care Herman; Jack N. Casavis, 115 West 68th Street; Charles T. Dill, 167 West 143rd Street, all of New York, and Robert G. Kissick, 199 Lincoln Place, Brooklyn, N. Y.; H. H. Sherwood, 39th Street and 2nd Avenue, Brooklyn, N. Y.

The report was accepted with thanks and the Secretary was ordered to forward the eight applications to General Secretary Day.

Committee on Education and Legislation.—Mr. Mayo being absent, no report was received.

Committee on Fraternal Relations.—Dr. Diner's lengthy report on the February Joint Meeting was accepted.

Special Committees.—The special committee headed by Dr. Army appointed to study the question raised by the resolution of the Philadelphia Branch reported in great detail. Appended to the report were the following resolutions:

RESOLVED, That the New York Branch of the American Pharmaceutical Association does not favor an increase in the dues of the Association as favored by the Philadelphia Branch, since it feels that such increase in dues will tend to drive away much of the membership gained during the past few years;

RESOLVED, That this Branch does not favor the abolition of either the JOURNAL or the Year Book for the same reason that it does not favor an increase in dues;

RESOLVED, That we feel the financial problems confronting the Association should be solved by increasing the membership of the Association and the advertising patronage of the JOURNAL and we stand ready in the future as in the past to aid the Association in these directions;

RESOLVED, That if economy is absolutely essential, this economy should be accomplished by curtailments of the expenses of the JOURNAL.

RESOLVED, That a copy of these resolutions and of this report be sent to the President, Secretary and Treasurer of the Association, to the Chairman of the Council, to the Chairman of the Committee on Publication,

and to the secretary of each local branch of the Association.

After considerable discussion, the report was accepted with the thanks of the Branch and the resolutions were adopted as embodied in the report.

Communications.—The Secretary read a communication from Mr. Charles Lehman, stating that it would not be possible for him to accept the chairmanship of the Committee on Education and Legislation to which he had been duly elected at the January meeting. President Mayer then appointed Mr. Mayo to fill this position.

A number of other communications were ordered accepted without being read.

New Business.—Dr. Diner reported the death of Dr. William C. Alpers and moved that, in view of the fact that he was the first President of the local Branch, and an active leader in pharmacy, a committee of three be appointed to draw up suitable resolutions. This was seconded and duly carried. President Mayer appointed the following as members of such a committee: Dr. Diner, Dr. Weinstein, Mr. Latham.

Dr. Coblentz read a very interesting paper on "The Chemicals of the New Pharmacopoeia," dwelling chiefly upon the tests of the U. S. P. IX.

Mr. Rippetoe then read a paper on the same subject. He brought out a number of interesting facts and inconsistencies in the new Pharmacopoeia.

The discussion following the reading of these papers was lead by Professor LaWall. He answered a number of points brought out by the two preceding speakers and also explained why certain changes had been made in the revision. Considerable further discussion followed.

A motion was made and carried that the three speakers be accorded a rising vote of thanks by the Branch.

Upon motion, it was then voted to adjourn, subject to the call of the chair.

HUGO H. SCHAEFER, *Secretary*.

NORTHWESTERN.

The Northwestern Branch of the American Pharmaceutical Association met in conjunction with the Scientific and Practical Section of the Minnesota State Pharmaceutical Association at 2.00 P.M., February 14, in the Hotel Saint Paul, St. Paul, Minn. Dean F. J. Wulling, chairman of the scientific section

of the State Association, and President of the American Pharmaceutical Association, convened the meeting.

The following program of the scientific section was carried out:

1. A symposium on the U. S. P. IX was opened and closed by C. H. Bollinger, and on the N. F. IV opened and closed by F. A. Upsher Smith. A number of pharmacists took part in the discussion.
2. "Prescription Pricing," by Robert L. Morland.
3. "Duty of the Public to the Pharmacist," by R. J. Messing.
4. "Prescriptions and Prescription Compounding," by H. Martin Johnson.
5. "Report of the Committee on Adulteration," by Professor Gustave Bachman.
6. "Fractional Percolation," by O. J. Blossmo.
7. (a) "The 1916 Results of Medicinal Plant Cultivation for Educational Purposes at the College of Pharmacy, University of Minnesota.
- (b) "A New Source of Supply for Ergot."
- (c) "The JOURNAL and the Year Book of the A. Ph. A.," by Dr. E. L. Newcomb.
8. "Report of Committee on College of Pharmacy," by Chairman A. J. Kline.

At the conclusion of the program the Branch held a business meeting, at which time the following officers were elected for the coming year:

President, Mr. Truman Griffin, Minneapolis; *Vice-President*, C. H. Bollinger, St. Paul; *Secretary-Treasurer*, Chas. H. Rogers, Minneapolis; *Executive Committee*, F. A. U. Smith, Chairman, St. Paul; F. M. Parker, St. Paul; W. S. Smetana, Hopkins; E. A. Tupper, Minneapolis.

C. H. ROGERS, *Secretary*.

SAN FRANCISCO.

The San Francisco Branch of the American Pharmaceutical Association met March 8, 1917, at 416 Hayes Street. In the absence of President Lengfield, Vice-President Jennie M. White presided. Communications from the Columbus Branch on "Copyright and Patent Laws" and on "An Assumed Deficit in the National Organization" were read. Definite action was deferred until the April meeting.

The informal discussion centered on a recently published article on the "Preparation of Dakin's Solution." It is claimed that the unsatisfactory results obtained in various

hospitals has been attributed to an incorrect formula and to faulty technic. A clear, concise and accurate method is given by Dr. A. Carrel in the December issue of the Journal of the American Medical Association. Many other references were quoted.

The manufacture of tablets by the pharmacist was made the subject for the evening. The object of the discussion was to point out the importance of equipment of this kind—one or two tablet moulds and a small tablet machine. With these and a certain amount of experience a pharmacist should be able to utilize stock on hand in addition to supplying unobtainable ready-made tablets. The work is interesting and should be a part of every prescription pharmacy.

The Branch will meet again on Thursday evening, April 12, 1917. The place of meeting has not been definitely decided, but plans are being made to meet permanently in the City of Paris Building.

CLARISSA M. ROEHR, *Secretary*.

PHILADELPHIA.

The February meeting of the Philadelphia Branch of the American Pharmaceutical Association was held at Temple University. The assay processes, both chemical and biological, of the U. S. P. IX, were discussed. The speakers of the evening were Professors C. E. Vanderkleed, Charles H. LaWall and Doctors William A. Pearson and Paul S. Pittenger.

A discussion of the subject of the assay processes of the U. S. P. IX was opened by C. E. Vanderkleed who called attention to the advantages of the maximum and minimum standard provision of the new Pharmacopoeia over the old absolute standards of the 8th revision. The tendency of the new U. S. P. assay directions to be less empirical and to leave more to the intelligent judgment of the operator was praised. He pointed out that the number of assayed and standardized preparations of vegetable drugs was not increased in the U. S. P. IX but that by the process of cross referencing, space for the description of assay processes has been saved and the methods made somewhat more nearly uniform. He heartily approved of the adoption of the "saw-dust" method for several of the preparations and expressed the opinion that some other preparations particularly those of Hyoseyamins might well have been added to the list of those assayed by the saw-

dust method. He commented upon the return to a total alkaloid standard for the preparations of Nux Vomica and indicated a preference of Methyl Red as an indicator for use in the titration of most vegetable alkaloids. Professor LaWall said that a consideration of the inorganic chemicals of the U. S. P. would be incomplete without a study of the guiding statements in the preface of the U. S. P. IX. Among the general principles adopted by the Convention in May 1910, to be followed by the Revision Committee, the most important one was on page xxxii of the preface in which it says that "The Purity Rubric, which limits the percentage of innocuous impurities, as introduced into the Eighth Revision, should be continued, and tests and requirements should be appended to each article carrying a purity rubric."

In the U. S. P. VIII, which must be looked upon as the foundation for the U. S. P. IX, a foundation wisely and skilfully built, for the most part, many substances had been described with purity rubrics, with no method of assay or other means of knowing whether the articles complied with the requirements. Among these may be mentioned alum, ammonium benzoate, calcium carbonate, lead acetate, phosphorus, potassium nitrate, sulphur, sodium phosphate and zinc sulphate, to give an idea of the wideness of the range.

For all of these substances for which a suitable assay process was available, it was provided. In those cases where none could be found nor devised, the rubric was dropped and the quality of the article protected by limiting tests. This has been done in the case of phosphorus, for example. In all of the other cases mentioned, and indeed, with one or two exceptions, the rubric has been continued and a suitable assay process provided.

Another important paragraph in the preface which has an influence upon the interpretation of results of examination of chemical substances is that on page xlv: "Standards of purity and strength prescribed in the text of this Pharmacopoeia are intended solely to apply to substances which are used for medicinal purposes or in determining the identity and purity of such substances."

Also on page xlvi are important paragraphs elucidating and explaining the purity rubric fully, referring to the range of strength provided for chemicals containing water of crystallization and requiring that the official assay process only be used for substances described in the book.

In the chemical tests the careful observer will notice that a definite plan of arrangement has been consistently followed. First, the physical characters are described, then follow identification tests, later the tests for prohibited impurities or limiting tests for those permitted and finally the assay process for determining the percentage of purity.

In connection with the details of the quantitative tests it will be seen that several important changes have been made in the handling of the directions for carrying out the processes. It is assumed that the person who carries out the tests has had sufficient elementary training to render unnecessary the inclusion of detailed directions for calculating the results.

Another important change in the interests of accurate results was made in, that instead of requiring the weighing of an exact specified quantity, which is always difficult and sometimes impossible on account of alterations during weighing, it is directed to take an amount approximating the desired quantity and weigh it accurately. There was great difficulty in getting this simple plan approved by the General Committee, as those not engaged in chemical work could not understand the points involved and thought that anybody ought to be able to weigh out exactly a gramme of anything without any trouble.

Another important change in the policy of the U. S. P., affecting many chemical substances, is the one permitting a range of strengths where an absolute invariable strength was required in former editions. For instance, in the U. S. P. VIII, diluted hydrochloric acid was required to contain exactly 10 percent HCl. Now it is required to contain not less than 9.5 percent nor more than 10.5 percent HCl. This is in the interest of the retail pharmacist wherever it occurs, as it specifies legally the leeway, variation or tolerance that should guide an official in authorizing a prosecution for an article not in compliance with the official requirements. Formerly this was a matter of personal opinion, and on this account injustice was frequently done to pharmacists by drug commissioners who had no knowledge of pharmacy.

One of the evils we still have with us is due to the apathy or ignorance of the retail pharmacist. It is the continued acceptance and use for official purposes, *i. e.*, use in prescription work and in making U. S. P. preparations, of chemicals sold under such ambiguous titles as "dried and powdered," where ex-

siccated salts are ordered or meant and chemicals deviating in some way from the requirements of the U. S. P. and sold with the qualification "For technical use." Many chemicals, thus designated, and deviating markedly in some particular from the requirements of the U. S. P., are used heedlessly or carelessly for pharmaceutical work. Pharmacists should be alert and further their own interests and that of their patrons by unhesitatingly rejecting all such goods unless they are actually to be used for technical purposes, as designated.

Doctors Paul S. Pittenger and William A. Pearson spoke on the biologic assays of the Pharmacopocia and the various assays were discussed with emphasis on the weak points which they considered present in the proposed methods. The fact was brought out that the U. S. P. methods in many instances lacked the details which workers in practical laboratories have found essential in order to obtain accurate results, and, therefore, do not show as well as they might the degree of efficiency to which biologic assay methods have been developed.

On Tuesday evening, March 13, the monthly meeting of the Philadelphia Branch was held in the chemistry lecture room of the Philadelphia College of Pharmacy with Dr. Julius Sturmer in the chair.

The routine business included the submitting before the body of two letters from the Columbus Branch, one referring to the Year Book decision of the local Branch and the other embodying a number of resolutions bearing on a revision of the Patent laws, both letters being turned over to the respective committees for further consideration. The feature of the evening was the lecture by Professor Henry Kraemer, an exceedingly interesting and enlightening topic, dealing with "The Microscope in the Hands of the Pharmacist," and the subject was presented with the speaker's usual dexterity in handling such a theme. A fine display of Kraemer-made and Kraemer-colored slides added much to the value as well as to the interest of the

paper. After further discussion of Professor Kraemer's subject, participated in by Dr. Sturmer, Prof. LaWall and Apothecary Hunsberger, a short paper on the new antiseptic solutions, Dakin's and modifications thereof, was read by Editor Eberle, of the JOURNAL, and commented on by Sister Mueller, Professors LaWall and Kraemer, Apothecary Hunsberger and others. Dr. Thum, of the German Hospital, had expected to be present to deliver a paper on these new ideas in wound cleansing but was prevented from attending through death in his family, and is expected to bring the matter up for further discussion at the next Branch meeting.

The following officers for the coming year were placed before the Branch by the Committee on Nominations and were unanimously elected:

President, Ambrose Hunsberger; *First Vice-President*, J. R. Minchart; *Second Vice-President*, Quintus Hoch; *Secretary and Treasurer*, Ivor Griffith; *Committee on Practical Pharmacy*, J. C. Peacock, *Chairman*, E. Fullerton Cook and W. W. McNeary; *Committee on Fraternal Relations*, J. R. Minchart, *Chairman*, F. E. Stewart and W. L. Cliffe; *Committee on Membership*, R. P. Fischelis, *Chairman*, J. W. England and J. Atlee Dean.

IVOR GRIFFITH, *Secretary*.

CITY OF WASHINGTON.

The February meeting of the Washington Branch was devoted to a discussion of the disposition to be made of the Year Book and a committee was appointed to consider the matter and render a report at the March meeting. A communication from the Columbus Branch was discussed by Mr. Hilton and members of the Association and the Secretary was instructed to notify the Columbus Branch that no action could be taken in response to their communication as the matter in hand was not subject to any rule of the Council, but had been recommended by the Association as a whole.

H. C. FULLER, *Secretary*.

COMMITTEE REPORTS

PREAMBLES AND RESOLUTIONS RELATING TO REVISION OF U. S. COPYRIGHT AND PATENT LAWS.*

WHEREAS, The object of the Copyright and Patent Laws, as defined by the Constitution of the United States,¹ is to promote progress in science and useful arts, and

WHEREAS, Copyrights and patents are grants conferring upon authors and inventors the right to prevent others copying their respective writings and discoveries for limited times, and

WHEREAS, The Patent Law requires that inventions to be patentable shall be new and useful, and shall not have been published in this or any foreign country prior to application for patent, and

WHEREAS, The Patent Law also requires that the application for patent shall contain full knowledge of the invention, including a description of the same, and of the manner of preparing and using it, in such clear and concise language as to permit any person skilled in the art to which the invention belongs to produce the same invention, and

WHEREAS, The proper application of the Patent Law requires that the invention shall be provided with a name by which it may alone be recognized and dealt in, and that such name shall be currently employed by those engaged in the manufacture and sale of said invention, and shall become a noun of the common language, to be freely used by all after patent expires, and

WHEREAS, This fact has been recognized by several decisions of the United States Supreme Court, including its decision in the Singer Sewing Machine case in 1895, which reads as follows:

"The result, then, of the American, the English, and the French doctrine, universally upheld is this, that where, during the life of a monopoly created by a patent, a name, whether it be arbitrary or be that of the inventor, has become, by his consent, either express or tacit, the identifying and generic name of the thing patented, this name passes to the public with the cessation of the monopoly which the patent created. Where another avails himself of this public dedication to make the machine and use the generic designation, he can do so in all forms, with the fullest liberty, by affixing such name to the machines, by referring to it in advertisements and by other means, subject, however, to the condition that the name must be so used as not to deprive others of their rights or to deceive the public, and therefore that the name must be accompanied with such indications that the thing manufactured is the work of the one making it, as will unmistakably inform the public of that fact."

and

WHEREAS, The object of the trade-mark law is to protect the public from the fraudulent substitution of one brand of an article for another brand of the same article, and is not intended

* This draft was prepared by Dr. F. E. Stewart, chairman of the Committee on Patents and Trade-marks, A. Ph. A., for Dr. S. Solis Cohen, Chairman of the Committee on Scope, U. S. P. IX. It was also submitted in the report of the Committee on Patents and Trade Marks, of the Merchants' and Manufacturers' Association of Philadelphia, composed of Ernest T. Trigg (President Philadelphia Chamber of Commerce), Charles A. Wagner and Dr. F. E. Stewart, and approved. The matter in italics is suggested for revising the present U. S. Copyright and Patent Laws, and the subject is submitted for study by the members of the American Pharmaceutical Association, preparatory to its discussion at the next annual convention. The Committee received instructions at the last meeting to proceed with the revision, and the Chairman is desirous that the subject be carefully considered from every viewpoint.

The Committee believes that all ambiguity now existing in the law should be removed in the revision. Provision should also be made in the law so that the inventor of a new process can secure a royalty from the original patentee. Attention is again directed that matter in italics embody the suggestions of the Committee for additions to the copyright, patent and trade-mark laws.—EDITOR.

¹ Article I, Section 8, Clause 8.

to create and foster monopoly, but rather to promote competition in the manufacture and sale of articles of commerce, and

WHEREAS, "When an article is made that was theretofore unknown, it must be christened with a name by which it can be recognized and dealt in, and the name thus given it becomes public property, and all who deal in the article have a right to designate it by the name by which it alone is recognizable,"² and

WHEREAS, The present system of registration of alleged trade-marks permitted by the United States Patent Office, because of a misunderstanding in regard to the scope and extent of the trade-mark privilege, enables inventors of nothing but names to register the same as trade-marks, and afterwards use them as titles of the articles for which they are registered as trade-marks, and

WHEREAS, This system of registration protects and fosters monopoly in the manufacture and sale of the articles themselves, and enables their manufacturers to obtain privileges far more restrictive in character than permitted by the copyright and trade-mark laws, and thus defeats the object of the same by hindering progress in science and useful arts, and

WHEREAS, This has resulted in an anomalous condition in which we have apparently laws diametrically opposing one another, namely, the patent law which grants the inventor exclusive use of his invention for a limited time, and then only on the publication of exact knowledge of the invention, whereby the public may manufacture it when the patent expires, and the trade-mark law which does not require that the article to be protected shall be a new and useful invention, that permits unlimited monopoly of the manufacture and sale of the protected article, and that does not require that the composition and method of manufacture of the article shall be divulged, therefore, be it

Resolved, That we memorialize Congress, asking for a revision of the United States Patent, Copyright and Trade-mark Laws, whereby these laws shall clearly define the scope and limitations of patent, copyright and trade-mark privileges, to wit:

First, Section 7 of the Copyright Law shall be revised in such a manner as to include the subject matter contained in circular No. 19, issued by the Librarian of Congress, which reads as follows:

"The Copyright Laws contain no provisions under which protection can be obtained upon a mere name or title. Entry cannot therefore be made in the Copyright Office for coined names; names of articles of manufacture; names of games or puzzles; names of substances, names of products, or names of medicines."

Section 7, as amended, shall read

That no copyright shall subsist in the original text of any work which is in the public domain, or in any work which was published in this country or any foreign country prior to the going into effect of this Act and has not been already copyrighted in the United States, or in any publication of the United States Government, or any reprint, in whole or in part, thereof: Provided, however, that the publication or republication by the Government, either separately or in a public document, of any material in which copyright is subsisting, shall not be taken to cause any abridgement or annulment of the copyright or to authorize any use or appropriation of such copyright material without the consent of the copyright proprietor.

(2) *That no copyright shall subsist in coined names, names of articles of manufacture, names of games or puzzles, names of substances, names of products, or names of medicines.*

Second, Section 4888 of the Patent Law shall be revised to read as follows:

Sec. 4888.—Before any inventor or discoverer shall receive a patent for his invention or discovery, he shall make application therefor, in writing, to the Commissioner of Patents, and shall file in the Patent Office a written description of the same, and of the manner and process of making, constructing, compounding, and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and in case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle, so as to distinguish it from other inventions; and he shall particularly point out and distinctly claim the part, improvement, or combi-

² Leclanche Battery Co. vs. Western Electric Co., 23 Fed. Rep. 227.

nation which he claims as his invention or discovery; and in case of a chemical substance, medicine or food, he shall provide the same with a distinctive name which shall afterwards be used by him, his executors, administrators and assigns, as the principal title thereof on all labels, in all advertisements and in all literature relating to the product; and he shall manufacture and continue to produce the product by the patented process during the life of the patent, and by no other process unless he shall apply for a patent for the same, and in case a patent is granted for a new process, he shall announce the fact in at least three prominent medical and pharmaceutical journals, respectively, calling attention to the new process and giving the number and date of the patent thereof. The specification and claim shall be signed by the inventor and attested by two witnesses.

No patents shall subsist in coined names, names of articles of manufacture, names of games or puzzles, names of substances, names of products or names of medicines.

Third, an addition shall be made to Section 19 of the Trade-mark Law, relating to what may be registered as a trade-mark, which shall read as follows:

(a) No trade-mark will be registered for a new article of manufacture, chemical substance, medicine or food, unless a distinctive name shall accompany the application, for the use of those who would compete in manufacturing and vending the same article and also for the use of the public in purchasing the same.

(b) No trade-mark will be registered for names of articles of manufacture, names of games or puzzles, names of substances, names of products or names of medicines.

WHEREAS, Many foreign countries exclude from patent protection inventions relating to medicines, including Germany, France, Austria-Hungary, Italy, Japan, Denmark, Norway, Sweden, Portugal, Russia, and a number of other countries, therefore, be it

Resolved, That Congress shall be memorialized to so amend the United States Patent Laws as to exclude from patent protection inventions of subjects or citizens of foreign countries, which do not grant similar patent privileges to citizens of the United States; therefore that the United States Patent Law shall contain a similar proviso to that at present contained in the Copyright Law relating to alien inventors, and shall read as follows:

The inventor or discoverer of any invention or discovery made the subject of patent by this Act, or his executors, administrators or assigns shall have patent for such invention or discovery under the conditions and for the terms specified in this Act; provided, however, that the patent right secured by this Act shall extend to the inventor or discoverer who is a citizen or subject of a foreign state or nation, only:

(a) *When an alien inventor or discoverer shall be domiciled within the United States at the time when the patent is created, or*

(b) *When the foreign state or nation of which such inventor or discoverer is a citizen or subject grants, either by treaty, convention, agreement, or law, to citizens of the United States, the benefit of patent on substantially the same basis as to its own citizens, or patent protection substantially equal to the protection secured to such foreign inventor or discoverer under this Act or by treaty, or when such foreign state or nation is a party to an international agreement which provides for reciprocity in the granting of patent, by the terms of which agreement the United States may, at its pleasure, become a party thereto. The existence of the reciprocal conditions aforesaid shall be determined by the President of the United States, by proclamations made from time to time, as the purposes of this Act may require.*

WHEREAS, The object of this proposed revision is not to curtail the privileges of authors and inventors, but rather to define the same in such manner as to secure the objects for which the Copyright, Patent and Trade-mark Laws were enacted, therefore, be it

Resolved, That these laws shall further define the scope and limitations of copyright, patent and trade-mark privileges by adding to these laws, in appropriate sections, the following definitions and restrictions:

No patent shall subsist for: (a) Inventions, the applications of which are contrary to the laws, to public morals, or to the public health.

(b) *Inventions relating to articles of food, or medicines, as also substances prepared by chemical processes in so far as the inventions do not relate to a definite process or apparatus for the preparation thereof.*

(c) *Coined names, names of articles of manufacture, names of games or puzzles, names of substances, names of products, or names of medicines.*

Section.—If the invention relates to a process for the production of a new substance, all substances of the same chemical composition are considered as having been made by the patented process until proof to the contrary is given to the Commissioner of Patents.

and finally,

WHEREAS, Progress in medical science, and in the arts of pharmacy and drug-therapy is dependent upon the practice of educated and trained pharmacists and physicians who alone are competent to pass upon the novelty and usefulness of alleged pharmaceutical and therapeutical inventions, therefore, be it

Resolved, That we favor an amendment to the patent law requiring the Commissioner of Patents to submit all applications for patents relating to medicines and dietetics to the Committee of Revision of the United States Pharmacopoeia for approval before granting the same.

The U. S. P. Revision Committee being decennially appointed by a Convention representing the professional and educational interests of pharmacy and medicine, as well as the interests of the entire drug trade of the United States, is representative and impartial and excellently organized to exercise judicial functions. To it is entrusted the revision and publication of the Pharmacopoeia which by the Food and Drugs Act of June 30, 1906, has become "the Law of the land." The present Committee consists of fifty-one members.

REPORT OF COMMITTEE ON QUALITY OF MEDICINAL PRODUCTS.*

(Continued from p. 311, March, 1917.)

CHERRY JUICE

Sp. gr. 1.055 Alcohol; 11.72%; Residue 19 %; 10 Cc. = 0.4 Cc. Decinormal KOH.

Sp. gr. 1.007 Alcohol; 23.04%; Residue 8.5%; 10 Cc. = 0.7 Cc. Decinormal KOH.

A variety of products have been offered under this title differing much from the standard of lots offered before the war.

1. Deeper red color, little cherry flavor. Sp. gr. 1.007, 14.8% alcohol, only 6% residue, very acid, 1 Cc. required 1.9 Cc. of decinormal alkali. Usually requires 0.3 to 0.4 Cc.

2. Alcohol 20%. Residue 20.7%. Sp. gr. 1.058. 1 Cc. requires 0.8 Cc. decinormal alkali.

CHERRY JUICE, MALAGA: Sp. gr. 1.058. Alcohol 20%. Residue 20.79%. 1 Cc. = 0.8 Cc. decinormal alkali.

CHERRY JUICE, CALIF.: Sp. gr. 1.058. Alcohol 19.72%. Residue 20.7%. 1 Cc. = 0.9 decinormal alkali. Evidently California Malaga Wine. E. L. PATCH.

CHROMIUM SULPHATE: It is difficult to obtain a product readily soluble in water. Several lots were rejected which were very slowly soluble or almost insoluble. H. ENGELHARDT.

CINCHONA: Of nineteen samples 3 assayed below 4% of ether soluble alkaloids. Three samples of red cinchona all assayed over 5% total alkaloids. H. ENGELHARDT.

The high price and scarcity of Cinchona Bark has this year brought upon the market offers of several spurious articles. One of these is genuine Cinchona, but a very low grade of the pale bark of Ecuador, which, even at its best, cannot meet the present alkaloidal standard. Another, a very thick woody bark, without bitter taste and entirely wanting in alkaloids. It appears to belong to a genus related to Cinchona. Two others, also of related genera and devoid of quinine, were imported from Columbia. II. H. RUSBY.

Quality has been poor. Of fifteen samples two contained half a percent of ether soluble alkaloids or less, one 0.84%, six between 1% and 2%, two between 2% and 3%, four above 5%, the highest 6.4%. W. I. SCOVILLE.

COCA: Five samples examined, 2 rejected. The three accepted assayed—0.88%, 0.94%, 0.97%. H. ENGELHARDT.

COLCHICUM ROOT: 0.24% instead of U. S. P. standard of 0.35%, 0.26%, 0.35%, 0.36%. Ash 2.2% to 2.8%. E. L. PATCH.

COLCHICUM SEED: Three samples assayed 0.605, 0.445, 0.445, respectively.

H. ENGELHARDT.

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916. Dr. H. H. Rusby stated that a portion of the preliminary part of this report had been taken from that of a like committee of the New York State Pharmaceutical Association and the Committee desired that due credit be given.

CORIANDER: Great difficulties have been encountered during the year in getting Coriander sufficiently clean. There is a remarkable tendency for this drug to contain not only various weed seeds in considerable amount, but many little hard, stonelike pellets of dirt, adding largely to the ash percentage.

H. H. RUSBY.

COTO: A large number of broker's samples of Coto and Para Coto have reached me for an opinion during the year. Not one of them was genuine, although most of them were closely related to the genuine drug. Probably some six or seven different barks were represented in the collection.

H. H. RUSBY.

CRAMP BARK: The folly of taking the action that was at one time recommended to the Revision Committee of the Pharmacopoeia of defining this drug as the bark of *Acer spicatum*, on the ground that genuine Cramp Bark could not be obtained, has been demonstrated by the appearance in the market of rather abundant supplies of genuine *Viburnum opulus*.

H. H. RUSBY.

CUBEB: The oleoresin in six samples varied from 14% to 20.52%.

H. ENGELHARDT.

CUDBEAR: The scarcity at the present time apparently has induced some dealers to put a drug on the market which is far inferior in coloring power. We also noticed that the color produced by some recent shipments had a decidedly yellowish red tint instead of the dark characteristic bluish red color.

H. ENGELHARDT.

CRESYLIC ACID: Much of that in the market is dark in color and deficient in solubility. A fair grade can be secured.

W. L. SCOVILLE.

CRESOL: Price greatly advanced and product inferior.

1. Sp. gr. 1.028 (low) not soluble in 60 parts of water.

2. Sp. gr. 1.034 partially soluble in 60 parts of water.

3. Sp. gr. 1.034 partially soluble in 60 parts of water.

Not completely soluble in 120 parts of water.

4. Sp. gr. 1.038 partially soluble in 60 parts of water.

5. Sp. gr. 1.038 partially soluble in 60 parts of water.

E. L. PATCH.

CUMMIN SEED: This drug is imported in larger amounts than any other of the umbelliferous fruits. The amount annually imported could hardly be credited by the ordinary pharmacist. It is subject to considerable impurity in the form of sand or earth, and there has been considerable discussion as to what was the proper percentage to be allowed. A decision on this question has not been reached.

H. H. RUSBY.

DANDELION ROOT: Three bags, 310 lbs., shipped from Philadelphia to New York consisted substantially of chicory. *Pharmaceutical Era*.

ELM BARK, POWDERED

1. Microscopic examination O. K. Made thick mucilage..... 13% ash.

2. Microscopic examination O. K. Made thick mucilage..... 9% ash.

3. Microscopic examination showed foreign starch..... 15% ash.

E. L. PATCH.

EMULSION COD LIVER OIL: Of seven samples labeled U. S. P. the oil contents varied from 18.2% to 45.6%, the standard being 43% by weight. The oil obtained from the low percentage product was not pure Cod Liver Oil.

IND. B. H.

ETHER U. S. P. 1890: Ether may contain peroxides and acetones as impurities.

PHARM. WEEKBLAD P. 3.

FENNEL: A great amount of fennel of very poor quality has arrived during the past year and has mostly found its way into the manufacture of veterinary remedies. It would seem as though large quantities of the drug have been stored up of so poor quality that the market would not take them at ordinary times, and have now been shipped, owing to the fact that there is so great a scarcity that buyers will be glad to get them, a supposition which has been abundantly verified.

H. H. RUSBY.

FLUIDEXTRACT VARIATIONS: Complaint is made that manufacturers add foreign color and inert extractive to fluidextracts to give them a dark appearance and heavy body. Some makers add just so much caramel and so much glucose to every lot of fluidextract. Others take pains to market light colored products only. This explains why N. F. preparations made from different makes of fluidextracts by retail pharmacists vary materially in character.

N. A. R. D. JOURN.

If there is truth in the above assertions it is a serious indictment and should be thoroughly investigated. We cannot believe that any reputable manufacturer so sophisticates his fluidextracts.

E. L. PATCH.

GENTIAN ROOT: Most of the Gentian received has been of good quality, but one shipment consisted wholly of the rhizome part, so that it was abnormally fibrous and weak in odor and taste. This shipment was also of a pale gray color, probably due to its not having been thrown into heaps and allowed to ferment, an operation which develops not only the reddish brown color but also the peculiar odor of the drug.

H. H. RUSBY.

GINGER, JAMAICA: Several lots tested unusually high. 8%, 9.5%, 7.5%, 10.25%, 7.7%, 6.5%, 7% of alcoholic extract. It often runs as low as 4 to 5%.

E. L. PATCH.

GLYCERIN: One lot contained a minute trace of arsenic, one lot had a low sp. gr. 1.247. Usually 1.25. Substitutes for glycerin are being offered which consist principally of invert sugar, a mixture of levulose and dextrose 81.5%, ash 0.025%, water 18.475%. They may give sweetness and density to preparations, but cannot offer the solvent and preservative power of glycerin.

E. L. PATCH.

A product is being largely sold as a substitute for glycerin. It is not a true substitute. It does not have the solvent powers or therapeutical action of glycerin. Several lots of glyceriu contained glucose.

N. Y. Commercial.

GUAIAIC: Only one out of three samples of guaiac answered the requirements of the pharmacopoeia in regard to alcohol solubility and ash.

H. ENGELHARDT.

One sample was worthless, one contained 63.4% of resin soluble in alcohol and four from 80% to 91.25%.

W. L. SCOVILLE.

GUARANA: One sample assayed 4.32% Caffeine.

W. L. SCOVILLE.

HELLEBORE, AMERICAN: Advantage has been taken of the complication of meanings for this name, to practice jugglery. One set of hellebores belong to the genus *Veratrum*, another to *Helleborus*. One of the latter is known as "Christmas Rose." An article is then imported under the last mentioned name, sold as "Hellebore," because it is a synonym, and finally appears as "*Veratrum*" because Hellebore is one of the synonyms of the latter drug.

H. H. RUSBY.

HOREHOUND: Spurious articles have continued to arrive. One of them that several times been offered is *Ballota nigra*, often known as "Black Horehound" but which should never be offered as Horehound.

H. H. RUSBY.

HYDRASTIS: Five samples contained from 2.23% to 3.7% hydrastine. One 5.5%.

W. L. SCOVILLE.

HYDROGEN DIOXIDE: One lot contained excess of residue 0.300 in 100 Cc. Consisted mostly of sodium chloride with traces of silica, sodium sulphate and magnesium sulphate.

E. L. PATCH.

HYOSCYAMUS: Lot 1. By U. S. P. process "A" 0.0344. Extracting with alcohol 2 volumes water 1 volume evaporating to extract and proceed in usual way "B" 0.0488%.

Lot 2. "A" 0.0574%. "B" 0.063%.

Lot 3, marked henbane proved to be belladonna.

U. S. P. method only—0.0867%, 0.0402%, 0.062%, 0.0485%, 0.048%, 0.051%, 0.017%.

E. L. PATCH.

Of twenty-four samples fifteen were rejected. The other five assayed from 0.08 to 0.12.

H. ENGELHARDT.

IPECAC: Of fourteen samples four were deficient, one assaying as low as 0.0875%.

H. ENGELHARDT.

2.427% alkaloids, 1.656%, 1.85%, 1.98%, 2.07%.

E. L. PATCH.

The sudden demand for emetine showed an influence on this drug. Five samples were offered which contained no alkaloid and one only 0.015%. Ten others yielded from 1.91% total alkaloid with 1.13% emetine to 2.68% total with 1.91% emetine. The proportion of emetine in the total alkaloids of the ten lots ranged from 45% to 85%.

W. L. SCOVILLE.

This drug has suffered more sophistication than any other. The only explanation appears to be the excessive demand for it from the war zone. A number of different spurious articles not of the same genus, besides one that is, have been offered. The native Brazilian name of ipecac is "Poaya," but this is also a general name for roots used as emetics. These include several other

species of *Cephaelis*, several species of *Calceolacia* (*Ionidium*) and *Richardia scabra*, all of which have appeared, besides a species of *Heteropterys*. H. H. RUSBY.

IPOMOEA ORIZABENSIS: The recognition of this root by the B. P. as a legitimate source of scammony resin has led to a complicated state of affairs. There is now a legitimate use for it so that it cannot be excluded when offered under its own name. Once admitted, it is very difficult to know what is done with it, and its appearance as, or mixed with powdered Jalap, is to be expected and has occurred. One of the names under which this is offered is "Raiz de Canaigre" although this name properly belongs to *Rumex hymenosepalus*. H. H. RUSBY.

IRON BY HYDROGEN: One sample contained only 60% iron. W. L. SCOVILLE.

JALAP: Total resin.....	6.45%	Soluble in ether.....	0.8 %	Ash.
Total resin.....	6.87%	Soluble in ether.....	0.62%	
Total resin.....	5.09%	Soluble in ether.....	0.54%	3.4%
Total resin.....	8.95%	Soluble in ether.....	0.8 %	5.2%
Total resin.....	9.7 %	Soluble in ether.....	1.25%	4.2%
Total resin.....	6.04%	Soluble in ether.....	0.59%	
Total resin.....	6.75%	Soluble in ether.....	0.8 %	

E. L. PATCH.

Lots in 1915 ran poorly but quality improved markedly in 1916. Of 10 samples during last of 1915, five contained less than 6% resin, three between 6% and 7%, one 7.29%, one 10.21%. In 1916 lowest 8.5%, highest 11.05%. W. L. SCOVILLE.

KAMALA: One sample showed 16.43% ash, sufficient for rejection. W. L. SCOVILLE.

KOLA: Of eight samples three assayed below 1.5% caffeine. H. ENGELHARDT.

Two samples 1.79% and 1.94% caffeine. W. L. SCOVILLE.

LARD, BENZOINATED: Of seventy-five samples thirty were not standard.

NO. DAKOTA EXP. STATION.

LIME: Commercial may contain 50% of magnesia with iron and other impurities.

JOURNAL A. PH. A.

LIME, CHLORINATED: 23% to 25% available chlorine. 30.07%, 35.7%, 14.6%.

E. L. PATCH.

LUPULIN: Twelve samples were examined. Five were insufficiently soluble in ether.

H. ENGELHARDT.

Fourteen samples gave 8% to 44.8% ash. Three were below 10% and three between 10% and 15%. W. L. SCOVILLE.

MANGANESE OXIDE (BLACK): Several shipments were rejected on account of assaying below the U. S. P. standard. They assayed from 60% to 61% of MnO_2 .

H. ENGELHARDT.

MATICO: Although the firm stand of the Department has resulted in the appearance of free supplies of the genuine article, it must be said that the spurious forms have not altogether ceased their appearance.

H. H. RUSBY.

MERCURY: Several lots were rejected because they contained a large proportion of amalgams of other metals.

H. ENGELHARDT.

METHYLENE BLUE: One sample yielded 49.6% ash and was rejected. It can easily be obtained yielding less than 1% ash.

W. L. SCOVILLE.

MOLASSES: Five samples contained from 30% to 44% of glucose.

MASS. S. B. OF H.

MUSTARD: No subject of the year has caused so much difficulty and annoyance as to quality offered, this statement applying to both black and white varieties. Supplies of genuine, of good quality have been so scanty as to have stimulated the export of thousands of tons of related seeds from India and China. The variety has been bewildering, and it has been found utterly impossible to identify the different individuals. Some have a certain amount of pungency while others have none. Under these circumstances samples of all or nearly all of the varieties have been planted and are being identified as rapidly as they flower and fruit. H. H. RUSBY.

MYRRH: The alcohol solubility of six samples varied from 27.4% to 38.6%. Ash from 3.8% to 7.6%.

H. ENGELHARDT.

OIL, CASSIA: A lot was rejected because it contained both lead and rosin.

H. ENGELHARDT.

OIL, COD LIVER: Turbid. Disagreeable odor. Refractive index 1.4744 at 23.5° C. Should be 1.4774. Rejected.

Clear. Disagreeable odor. Refractive index 1.4751 at 25.5° C. Should be 1.4767. Rejected.
E. L. PATCH.

It has been difficult to obtain cod liver oil of satisfactory quality. Most samples are dark in color and unpleasant in taste. It is impossible to insist on a high grade oil at the present time and secure supplies.
W. L. SCOVILLE.

OIL, ETHEREAL: Considerable trouble was experienced with this preparation. There are products on the market which seem to be nothing but the refuse in the manufacture of ether and are completely devoid of sulphuric acid esters. A test for the presence of the latter should be made by saponifying the oil with caustic alkali under pressure and identifying the alkali sulphate in the product of saponification. It would also be advisable to give directions for keeping the oil. Several shipments were rejected on account of dark color, unfitting it for making Hoffman's Anodyne.
H. ENGELHARDT.

OIL OF JUNIPER BERRIES: A shipment consisted largely of oil of turpentine. It is to be regretted that neither the present nor the forthcoming pharmacopoeia have tests to detect any appreciable adulteration of oil of juniper berries with oil of turpentine.
H. ENGELHARDT.

OIL, LEMON: Both the natural and concentrated are frequently low in citral contents.
W. L. SCOVILLE.

OIL, LINSEED: Three out of sixteen samples were adulterated.
IND. B. OF H.

MINERAL OIL: The situation is confusing. Quite a number of oils on the market do not meet the tests recommended by the forthcoming Pharmacopoeia, because they contain easily carbonizable matter and in some cases sulphuretted compounds. Detailed experiments made in our laboratory showed that with the exception of the California heavy liquid petrolatum no other liquid petrolatum on the market, even that of Russian origin, meets the sulphuric-nitric acid test as proposed recently for adoption in the Pharmacopoeia IX.
H. ENGELHARDT.

Sp. gr. 0.854 at 25° C. fluorescence. With H₂SO₄ very dark.

Sp. gr. 0.850 fluorescence. With H₂SO₄ yellow, reddish and black on heating.

Sp. gr. 0.850, colorless, odorless, tasteless. With H₂SO₄.

Yellow, becoming brown with heat.

Sp. gr. 0.855, colorless, Yellow becoming brown.

Sp. gr. 0.854, colorless, Yellow becoming brown.

Sp. gr. 0.855, colorless, Yellow, becoming slight color with H₂SO₄ and heat.

Sp. gr. 0.858, colorless, odorless, nearly tasteless, very dark with H₂SO₄ and heat.

Sp. gr. 0.858, colorless, odorless, tasteless, with H₂SO₄ and heat, nearly colorless. With PbO test O. K.
E. L. PATCH.

Much offered had a kerosene odor and taste and some darkened markedly with sulphuric acid.

W. L. SCOVILLE.

OIL, PENNYROYAL: Samples answered all tests but that of sp. gr. Two lots were over 0.940 (U. S. P. 0.920 to 0.935).
E. L. PATCH.

OIL, SANDALWOOD, GERMAN: A mixture of W. I. Oil, from *Amyris balsamifera* and Copaiba.
O. P. & D. REPORTER.

OIL, THYME: There is a scarcity of oil of thyme. Several shipments which exhibited a decided red color, were rejected.
H. ENGELHARDT.

Received a shipment of oil of thyme that contained more carvacol than thymol and was not satisfactory for manufacture of thymol.
NAT. ANIL. & CHEM. CO.

OIL, TURPENTINE: Sp. gr. 0.8435. Refractive index 1.4622 at 20° C. (Range of other lots 1.4703 to 1.4712). Contained a notable quantity of kerosene.
E. L. PATCH.

OILS—VOLATILE: Artificial substitutes for the natural oils are increasing. Oils of coriander, rose, neroli and cinnamon (Ceylon) are mostly of the artificial variety. It is needless to say that they are not as satisfactory as the natural oils, but the latter are not always obtainable.
W. L. SCOVILLE.

OLEORESIN MALEFERN: Varies considerably in the amount of crude filicin. Four samples contained 19.7%, 21.8%, 22%, 24.3% determined by Fromme's method. Good Oleoresin of Malefern should contain 27% to 28%. It would be advisable that the U. S. P. give an assay process for this product.
H. ENGELHARDT.

PAPAIN: Has run better than formerly. Two lots were worthless and three others less than half strength, but 60% of the samples offered were satisfactory. W. L. SCOVILLE.

PARSLEY SEED: Eight lots yielded from 11% to 29% of oleoresin. H. ENGELHARDT.

PAW PAW JUICE: Owing to the persistency of the Department in rejecting adulterated shipments, in spite of all clamor, this article is now universally of good quality. H. H. RUSBY.

PHENOL: Has been troublesome. High grade lots are scarce. Most of that offered is dark in color, has a foreign odor and a low melting point. W. L. SCOVILLE.

PINKROOT: This drug, which a few years ago was very scarce, except in a highly adulterated form, is now quite abundant and of reliable quality, although adulterants and substitutes have still to be carefully looked for. It is a tribute to the care and persistence of the Food and Drug Department that collectors have finally been induced to supply the genuine drug. H. H. RUSBY.

PODOPHYLLIN: Alcohol soluble.....	99 %	Ash.....	0.4%
Alcohol soluble.....	99.6%	Ash.....	1.2%
Alcohol soluble.....	99.8%	Ash.....	0.4%

E. L. PATCH.

POPPY SEED: One of the most curious conditions has arisen in regard to Poppy Seed. It was claimed that an occasional henbane seed had been found in this drug and it was learned that the Department had adopted a ruling that one henbane seed to fifteen thousand poppy seeds should be the limit of acceptance. On this basis a person would require to eat nine pounds of seed to get a single medicinal dose of henbane seed. It developed that the Department had been compelled to adopt this standard for the reason that it was the standard for export in some European countries and our international agreements will not permit us to receive from another country anything, the exportation of which is forbidden by that country. H. H. RUSBY.

POTASSIUM SALTS: The growing scarcity of potassium salts has led to technical salts being offered as medicinal quality. The technical salts usually contain large proportions of chloride and are below the U. S. P. or N. F. standards. Watchfulness has become necessary in their purchase. W. L. SCOVILLE.

POTASSIUM BROMIDE: Sample labeled Potassium Bromide was sodium bromide and contained a large excess of moisture—12%. DRUG TOPICS.

RENNIN has almost disappeared from the market, and samples offered are usually low in strength. W. L. SCOVILLE.

RICE POWDERS: Of sixteen samples, so labeled, two were genuine, and only six contained rice starch at all. Thirteen contained talc, two bismuth subnitrate, three chalk, and seven zinc oxide. C. H. LAWALL.

SAFFLOWER: This drug has been imported on an unprecedented scale during the past year. Shipments have aggregated many tons. This result is doubtless due to the scarcity of dyestuffs. The claim is made that it is largely used in the making of a color preparation that is falsely credited to genuine saffron. H. H. RUSBY.

SAGE: The general quality of the shipments of sage received during the past year has been very poor indeed. Almost all of it was stemmy. In some cases the stems reached eighty-five or ninety percent of the whole. In addition, much was badly cured and of a blackish color. One of the most important developments in relation to this drug has been the offering of considerable quantities of *Sideritis theaezans* as sage, which it closely resembles in appearance, though not in odor or taste. The proper name of this article is Greek Tea, which name must not be confounded with Greek sage. H. H. RUSBY.

SANDALWOOD: For the first time since my connection with the Bureau of Chemistry, shipments of so-called West Indian Sandalwood, *Amyris balsamifera* L., have appeared upon the market. Since they were offered under their real name of "West Indian Sandalwood" their acceptance was obligatory, but they bear little resemblance in odor or taste to genuine sandalwood, although trimmed in the same way and of similar appearance. I have not learned what disposition was made of them. H. H. RUSBY.

SARSAPARILLA, MEXICAN: A number of shipments received which presented a most peculiar appearance, unlike anything before seen. They were said to have been collected in the state of Vera Cruz from new land which had never before yielded any Sarsaparilla to commerce. The roots were exceedingly thick and woody, of a black color and with a very thin bark which was brittle and tended to crumble or scale off. The whole root had a sort of dead appearance and

was dry and tasteless. Not only was there a serious doubt as to its pertaining to the plant *Smilax medica*, but even if so it must have been rejected on the ground of inferior quality.

H. H. RUSBY.

SCOPOLA: The shortage in Belladonna Root has caused much advantage to be taken of suitable opportunities for using Scopola in plasters and its importation has thus increased. Its supply has been deficient and, in view of the stressful conditions, the Department has permitted the use of the Japanese variety for making an extract, provided the latter be brought up to the proper alkaloidal strength.

H. H. RUSBY.

SENNA: The supply of Senna has been very scanty, great inconvenience, especially to the manufacturers of proprietary articles, having thus resulted. Many shipments have been of decidedly poor quality, so poor that in an ordinary year they would doubtless have been rejected. Owing to the scarcity referred to, the limits have been strained to the utmost in admitting low grades. Several shipments of spurious senna have been rejected and many broker's samples, representing several species of Cassia have reached me. A sample of "Kolinji" was received with the information that it was being used as an adulterant of India Senna. Kolinji is a native Indian name for orange leaves, but these leaves were identified as those of *Cracca villosa*. I have never seen them in Senna.

H. H. RUSBY.

SENNA SIFTINGS: When the Department proposed to reject senna siftings containing a larger percentage of foreign matter than was allowed in senna itself, there was a most violent protest. It was declared to be impossible to secure senna siftings of that quality and impossible to so clean them after arrival here as to cause them to meet the standard. The Department was very firm and even went so far as to clean several bales and thereby demonstrate the practicability of the process. As a result we now have senna siftings which are, if anything, superior in activity to the whole leaf.

H. H. RUSBY.

SODIUM CARBONATE, DRIED: N. F. 1916. U. S. P. 1890. 73% Na_2CO_3 . 7 lots assayed 81.6%, 82.4%, 82.1%, 77.4%, 78.4%, 75.3%, 95.3%.

E. L. PATCH.

SODIUM GLYCEROPHOSPHATE: Fine, white, crystalline form, freely soluble, 1 gramme ignited gave 0.430 residue. So-called 75% ignited gave 0.450 residue.

E. L. PATCH.

SOLUTION CRESOL COMPOUND: A sample of this preparation was rejected because it contained 20% water. It had probably been manufactured with soft soap.

H. ENGELHARDT.

SOLUTION CITRATE OF IRON: A good deal of trouble was experienced with this preparation. Some shipments arrived in a gelatinous condition, while others did not form clear solutions.

H. ENGELHARDT.

SPIRIT ANISE: Two lots 69% and 70% of official.

MASS. ST. B. OF H.

SPIRIT CAMPHOR: Samples found only 50% of official.

MASS. ST. B. OF H.

80%, 70%, 60%, 57%, 20%, 18% of official contents of Camphor. One—33% alcohol.

N. A. R. D.

SPIRIT NITROUS ETHER: Mess. Kehler, Palkin and Ewing, Washington, D. C., conclude that the Spirit of Nitrous Ether U. S. P. will keep well for six months under all ordinary conditions, with no marked deterioration in eighteen months kept with ordinary precautions. Compare these findings with report of exhaustive experiments conducted by the Massachusetts State Board of Health published in our last year's report.

SPIRIT PEPPERMINT: Four samples ranged from 22% to 84% of official.

MASS. ST. B. OF H.

SQUILLS: Powdered Squill containing starch has occasionally been found in the market and an occurrence of the past year may explain this fact.

There was offered for import at New York a good sized shipment of whole bulbs of squill, undried and capable of germinating when planted. They pertain to the amaryllis groups. Upon microscopical examination, these bulbs were found entirely wanting in needle shaped crystals and to contain an abundance of starch. In spite of most strenuous protests as to their genuineness, they were rejected. It is not improbable that it was an admixture of these bulbs with genuine squill that is the origin of the starch-bearing powder referred to.

H. H. RUSBY.

STRAMONIUM LEAVES: Four samples were of good quality.

H. ENGELHARDT.

0.38%, 0.4%.

E. L. PATCH.

Five lots varied from 0.27% to 0.57% alkaloids.

W. L. SCOVILLE.

SUMBUL: Advanced in price from eight cents to three dollars. The *Journ. of Am. Chem*

Soc. Feb. 16 states that the market product is not true ferula sumbul, but the root of an undetermined umbelliferous plant coming from central and northern Europe through Moscow.

E. L. PATCH.

TRITICUM: Genuine doggrass has become increasingly scarce throughout the year, until at length the genuine article appears to be unobtainable. Almost all that which was offered at the port of New York was spurious. This spurious doggrass is of two or three species. All are of very pale color and hard rather than soft and gummy like true doggrass. One is very hard and woody with little or no starch, while another is not so hard and is very starchy.

H. H. RUSBY.

UNICORN ROOT: We continue to find much confusion existing as to the application of the term "Unicorn Root" and "False Unicorn Root." It should be remembered that true Unicorn root is Aletris and that false Unicorn root is Chamaelirium. When labeled otherwise the Government is obliged to declare them misbranded.

H. H. RUSBY.

VALERIAN: Much Japanese Valerian Root has been offered for import and has finally been accepted as genuine. There is still some doubt as to whether the Japanese plant is *Valeriana officinalis* or a distinct species; but it is of excellent odor and taste, very clean and is in reality superior for medicinal purposes to the European form. It is of a very dark color.

H. H. RUSBY.

VIBURNUM PRUNIFOLIUM: Attention may well be called here to the ill-advised endeavor of the Medical Council of the A. M. A. to discredit this valuable drug. The recorded experiments on the results of which this action is based, would be ludicrous if the matter were not of such serious importance. Undoubtedly there have been many wild claims made for the therapeutic activity of this bark on the part of manufacturers of proprietary preparations, but it is equally true that medical practice has been full of cases in which life has been saved by its judicious use.

H. H. RUSBY.

WEIGHTS: Of 10,921 troy weights 659 were accurate, 6335 light, 1990 heavy and 1828 condemned. Of 2030 metric weights 311 were accurate, 1040 light, 617 heavy, 62 condemned. Of 871 balances 441 only were in good condition.

Pharmaceutical Era.

WITCH HAZEL DISTILLED EXTRACT: One lot only 9% of alcohol.

DRUG TOPICS.

ZINC SALTS: Some samples showed a large excess of metallic impurity.

W. L. SCOVILLE.

ADDENDA.

Many samples of adulterated aspirin have been found on the market. A sample of fluid-extract of cinchona, yellow, with a deficiency of approximately 25% of cinchona alkaloids, was referred to the courts and the jury found the defendants guilty. The trial was full of technicalities which showed the great necessity of adhering strictly to the details outlined in the methods of analysis. To illustrate: One step of the analysis reads as follows: "Draw off and reject the lower aqueous layer, and then transfer the ether layer into a tared beaker." Great stress was laid on the fact that the Government analyst transferred the ether to a tared beaker by pouring it out of the top of a separatory funnel, rather than drawing it off from the bottom. The defendants intimated that such a procedure on the part of the chemist invalidated the method sufficiently to warrant a new trial or appealing the case. Attention is called to this fact showing the necessity of using language in the Pharmacopoeia which is susceptible of only one construction.

On referring to page 579 will be found the following statement: "The final operation must always be the collection of the free alkaloid by the use of a portion of the immiscible solvent, drawing this off into a beaker, rinsing with a small portion of the solvent to prevent possible loss." It was maintained that general directions govern in case there is a conflict with same in the specific method of analysis. The court refused to rule on the matter and left it for the jury to take into consideration in arriving at its decision.

Attention might also be called briefly to the work of the Post Office Department in eliminating frauds from the mail. The Post Office Department has continued its activities in denying the use of the mails to those engaged in medicinal schemes to defraud the consumer. The Department has taken the position that it is impossible to diagnose disease through the mails by means of filling out a so-called symptom blank. It has usually been found that the parties so

operating do not conduct their business in good faith as is shown by the fact that they will send medicines to what appear from the symptom blanks to be most grave diseases, as well as to those which so far as it is able to judge from the symptom blank are in perfectly good health. Appeals to the courts from the Postmaster General's decisions in the issuing of fraud orders have been overruled by the courts, thus sustaining the position taken in these matters. The medicines usually employed are of the most simple, although they are frequently represented as possessing some mysterious occult healing properties.

Recent examinations by the chemists engaged in the enforcement of the Food and Drugs Act of shipments of benzoic acid offered for entry into the United States have revealed that much of it is adulterated with boric acid. This adulteration is probably due to the high price which benzoic acid now commands owing to its scarcity. It is quoted at about eleven dollars per pound, while the price of high grade boric acid is only twenty to twenty-five cents per pound. As some of the shipments of benzoic acid have been found to contain as much as thirty percent boric acid, the enormous profit in this form of adulteration is apparent.

The officials in charge of the enforcement of the Food and Drugs act are of the opinion that benzoic acid containing boric acid is adulterated, and that shipments of such a mixture offered for entry into the United States should be denied admission under the Food and Drugs Act.

L. F. KEHLER.

There has recently arrived at the Port of New York a shipment of India Senna heavily adulterated with *Cracca villosa*, the first case of the kind that has ever come under my observation.

H. H. RUSNY.

ADEPS LANAÆ: Much has been said about the adulteration of Adeps Lanae with Petrolatum and Resin. The addition of Petrolatum alone lowers the saponification number, but there seems to be a range of ten in lots that meet the U. S. P. requirements. Any gross adulteration with Petrolatum would reduce the saponification number so as to require the addition of rosin or some other body to prevent it. The addition of rosin is discovered by the U. S. P. test of solution in ether, addition of phenolphthalein solution and addition of normal KOH solution. This is Test No. 5 of table given below. It is also plainly indicated by applying a modification of the U. S. P. test with cupric acetate solution as given under guaiac. This is Test No. 6 of table below.

		1.	2.	3.	4.	5.	6.
		% of water.	Color.	Odor.	Saponi- fication No.		
1	Anhydrous	None	Light amber	Nearly odorless	90.57	O. K.	Slight yellow color
2	Anhydrous	None	light amber	slight odor	95.4	0.1 Cc. N Sol. KOH	slight yellowish green
3	Anhydrous	None	dark amber	perceptible	89.37	0.1 Cc. N Sol. KOH	slight yellowish green
4	Anhydrous	None	dark amber	perceptible	100.4	0.1 Cc. N Sol. KOH	slight yellowish green
5	{ 90% No. 2 6% Rosin 4% Petrolatum	..	...	perceptible	94.86	0.6 Cc. N Sol. KOH	decided green
6	Hydrous	26%	light amber	nearly odorless	68.2	O. K.	slight yellow
7	Hydrous	30%	light amber	slight	67.0	O. K.	slight yellowish green
8	Hydrous	26.6%	light amber	slight	65.6	O. K.	slight yellowish green
9	Hydrous	28%	light amber	slight	70.4	O. K.	slight yellowish green

E. L. PATCH.

E. L. PATCH.

Since the marked drop in the prices of the bromides, there has been a quadruple increase in their use in some quarters.

COMMITTEE { EDGAR L. PATCH
LYMAN F. KEHLER
H. H. RUSNY
H. ENGELHARDT

COUNCIL BUSINESS

A. PH. A. COUNCIL LETTER NO. 12.

PHILADELPHIA, PA., December 29, 1916.

To the Members of the Council:

Motion No. 16 (Substitute Motion for Motion No. 12) and No. 19 (Resolution Relative to the late Martin I. Wilbert), have each received a majority of affirmative votes.

The nomination of Prof. Wilbur L. Scoville as Chairman of the Committee on National Formulary (C. L. No. 4, 8) has been withdrawn by the mover of the motion, with the consent of the second.

The nomination of Prof. Bernard Fantus as a member of the Committee on National Formulary (C. L. No. 4, 8) has been withdrawn by the mover of the motion, with the consent of the second.

Motion No. 20 (Election of Members). The following applications for membership have been presented:

- No. 51. B. P. Edmonds, 1539 Jefferson Ave., Detroit, Mich., rec. by A. A. Wheeler and R. A. Hugill.
- No. 52. Rudolph Wirth, 158 West 99th St., New York, N. Y., rec. by Robt. C. Pursell and Irvin S. Zeluff.
- No. 53. Paul Frederick Dickens, Hospital Steward, U. S. N., U. S. Naval Training Station, San Francisco, Cal., rec. by A. A. Lee and Wm. B. Day.
- No. 54. Frank C. Starr, 41 John Street, New York, N. Y., rec. by Geo. T. Riefflin, and Ernst Stauffen.
- No. 55. Harry J. Borst, 3229 E. 10th St., Indianapolis, Ind., rec. by M. K. Pruyn and Francis E. Bibbins.
- No. 56. Oscar Haarer, 200 E. Liberty St., Ann Arbor, Mich., rec. by Ottmar Eberbach and J. O. Schlotterbeck.
- No. 57. Raymond Daniel Kinsey, U. S. Public Health Service, Washington, D. C., rec. by A. M. Roehrig and Edward Rogers.
- No. 58. Dra. Sarah Bustillo y Alberdi, 125 Industria St., Havana, Cuba, rec. by Jose P. Alacan and Jose Guillermo Diaz.
- No. 59. H. B. Schreurs, Hospital Steward, U. S. Navy, Naval Hospital, Guam, P. I., rec. by J. W. England and E. G. Eberle.
- No. 60. Sumney Bird Higgins, 3718 Westminster St., St. Louis, Mo., rec. by Charles H. LaWall and Leroy Forman.
- No. 61. Ellis E. Faulkner, Delton, Mich., rec. by Leonard A. Seltzer and A. Alton Wheeler.
- No. 62. Edward Davy, 21 E. 12th Ave., Columbus, Ohio, rec. by C. A. Dye and Azor Thurston.
- No. 63. Sister Theresa, St. John's Hospital, Springfield, Ill., rec. by Wm. B. Day and E. N. Gathercoal.
- No. 64. Macy S. Hight, 32 Adams Ave., W., Detroit, Mich., rec. by Leonard A. Seltzer and A. Alton Wheeler.
- No. 65. George T. Snyder, 879 Mack Ave., Detroit, Mich., rec. by Leonard A. Seltzer and A. Alton Wheeler.
- No. 66. Harry Landis Thompson, 710 North 26th St., Lincoln, Neb., rec. by Rufus A. Lyman and Elsie Day.
- No. 67. Herschel Megaw, 132 E. Capitol St., Washington, D. C. (Pharmacist U. S. Public Health Service), rec. by Frank L. Gibson and E. B. Scott.

J. W. ENGLAND,
Secretary.

415 N. 33RD STREET, PHILA., PA.

A CORRECTION.

In March issue, p. 319, Council Letter No. 13 was numbered Council Letter No. 12. A misunderstanding of the publishers of the value of these numbers caused them also to number Council Letter No. 6 as No. 11; No. 7 as No. 10; No. 8 as No. 9, and No. 9 as No. 8; No. 10 as No. 6 and No. 11 as No. 7. Fortunately the dates were not changed but the letters do not run consecutively.

A. PH. A. COUNCIL LETTER NO. 14.

PHILADELPHIA, PA., February 6, 1917.

To the Members of the Council:

Motion No. 21 (Election of Members; applications Nos. 68 to 75 inclusive) has received a majority of affirmative votes.

(Cancel application No. 76 of C. L. No. 13. Application was sent in error with check; payment of dues of member intended.)

Chairman Hopp has named the following Committee on M. I. Wilbert Resolutions

(C. L. No. 11): S. L. Hilton, Dr. F. E. Stewart and H. V. Army.

Motion No. 22 (Election of Members). The following applications for membership have been presented:

- No. 76. Robert Franklin Ligan, 159 S. Front St., Steelton, Pa., rec. by W. B. Goodyear and Chas. H. LaWall.
- No. 77. William F. Morgan, Phar. D., 136 Meserole Ave., Brooklyn, N. Y., rec. by Joseph L. Mayer and Frank L. McCartney.
- No. 78. May Agnes O'Connor, M.A., 19 Church St., White Plains, N. Y., rec. by Jeannot Hostmann and H. V. Army.
- No. 79. Charles A. Loring, 145 Front St., New York, N. Y., rec. by Frank L. McCartney and Turner F. Currens.
- No. 80. John D. F. Dreyer, 41 John St., New York, N. Y., rec. by Frank L. McCartney and Jos. L. Turner.
- No. 81. Geo. E. Fitzsimmons, 1045 Lex. Ave., New York, N. Y., rec. by G. Hostmann and Jacob Diner.
- No. 82. William E. Gifford, 203 Fulton St., New York, N. Y., rec. by Thos. F. Main and Frank L. McCartney.
- No. 83. Wilbur R. Eastburn, 1237 S. Peach St., Phila., Pa., rec. by Robert P. Fischelis and F. E. Stewart.
- No. 84. Norbert R. Mueller, Room 459, Chemistry Building, University of Wisconsin, Madison, Wis., rec. by Edward Kremers and H. A. Langenhan.
- No. 85. Leo Harold Shapiro, 1021 W. Harrison St., Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.
- No. 86. Jacob S. Segura, 117 West Main St., New Iberia, La., rec. by R. F. Grace, N. O., and Christian Schertz, N. O.
- No. 87. George Baylies Gunn, Main St., Uxbridge, Mass., rec. by T. J. Bradley and W. B. Day.
- No. 88. Edmund Sheldon Thatcher, 334 Ogden Ave., Milwaukee, Wis., rec. by W. B. Day and E. N. Gathercoal.
- No. 89. Earl F. Shippy, 5601 N. Crawford Ave., Chicago, Ill., rec. by Geo. F. Vanpell and Wm. B. Day.
- No. 90. Paul Freund, 309 Chartres St., New Orleans, La., rec. by R. F. Grace, N. O., and Philip Asher.
- No. 91. Arthur Paul Azlin, Water Valley, Miss., rec. by H. M. Faser and W. B. Day.

- No. 92. Charles Dewitt Pigott, Flowers, Miss., rec. by H. M. Faser and W. B. Day.
- No. 93. John Ellis Pigott, Flowers, Miss., rec. by H. M. Faser and W. B. Day.
- No. 94. C. Emerson Whittington, Gloster, Miss., rec. by H. M. Faser and W. B. Day.
- No. 95. Benjamin W. Altstadt, 2248 N. Central Park Ave., Chicago, Ill., rec. by A. J. Winters and Wm. B. Day.
- No. 96. Abe H. Geisenberger, Jr., Natchez, Miss., rec. by H. M. Faser and W. B. Day.
- No. 97. Harry Whitehouse, Johnson City, Tenn., rec. by J. O. Burge, Ph.G., and E. A. Ruddiman.
- No. 98. Ernest John Schott, Cor. Broadway & 8th Ave., Nashville, Tenn., rec. by J. O. Burge and E. A. Ruddiman.
- No. 99. William Patrick Winter, 423 8th Ave., S., Nashville, Tenn., rec. by J. O. Burge and E. A. Ruddiman.
- No. 100. Edward Baird McGrew, Shelbyville, Tenn., rec. by J. O. Burge and E. A. Ruddiman.
- No. 101. Henry Herimann Humma, 2431 S. Dearborn St., Chicago, Ill., rec. by M. A. Miner and C. W. Patterson.
- No. 102. John Wesley Stokes, 501-503 Mass. Ave., Indianapolis, Ind., rec. by Frank R. Eldred and Francis E. Bibbins.

J. W. ENGLAND,
Secretary of the Council.

415 N. 33RD ST.

A. PH. A. COUNCIL LETTER NO. 15.

PHILADELPHIA, PA., February 9, 1917.

To the Members of the Council:

The following Tentative Program for the Sixty-fifth Annual Meeting of the Association, to be held at Indianapolis, during the week of August 27 to September 1, is submitted by the Committee on Program, the General Secretary, Secretary of the Council and the Local Secretary:

Monday, August 27.

- 9.30 A.M.—National Association Boards of Pharmacy.
- 2.00 P.M.—National Association Boards of Pharmacy.
- 8.00 P.M.—National Association Boards of Pharmacy.

Tuesday, August 28.

9.30 A.M.—National Association Boards of Pharmacy.

American Conference of Pharmaceutical Faculties.

2.00 P.M.—American Conference of Pharmaceutical Faculties.

Excursions to Industrial Plants.

7.00 P.M.—Meeting of the Council.

8.00 P.M.—First General Session.

Meeting of Committee on Nominations.

Wednesday, August 29.

9.30 A.M.—Scientific Section.

Commercial Section.

Women's Section.

2.00 P.M.—Practical Pharmacy and Dispensing (Pharmacopoeias, Formularies and Standards).

Section on Education and Legislation.

4.00 P.M.—House of Delegates.

7.00 P.M.—Meeting of the Council.

8.30 P.M.—President's Reception.

Thursday, August 30.

9.30 A.M.—Scientific Section.

Commercial Section.

Practical Pharmacy and Dispensing (Pharmacopoeias, Formularies and Standards).

12.30 P.M.—Luncheon of College Alumni.

2.30 P.M.—Second General Session.

4.00 P.M.—House of Delegates.

7.00 P.M.—Meeting of the Council.

Friday, August 31.

9.30 A.M.—Scientific Section.

Section on Education and Legislation.

Historical Section.

2.00 P.M.—Practical Pharmacy and Dispensing (Pharmacopoeias, Formularies and Standards).

Women's Section.

Joint Session of Section on Education and Legislation, A. C. P. F. and N. A. B. P.

4.00 P.M.—Meeting of the Council (Reorganization.)

Saturday, September 1.

9.00 A.M.—Meeting of the Council.

10.00 A.M.—Final General Session.

Comments and suggestions are invited.

J. W. ENGLAND,

Secretary of the Council.

415 N. 33RD ST.

MEMORIAL ADOPTED BY THE COMMISSION ON PROPRIETARY MEDICINES ON THE DEATH OF MARTIN I. WILBERT.

The members of the Commission on Proprietary Medicines of the American Pharmaceutical Association record their sense of sorrow and profound loss, from the unexpected and sudden decease of their esteemed co-worker and friend,

MARTIN I. WILBERT.

A member of the "Commission" since it was first formed by our Association, he gave close attention and study to the problems incident to the manufacture, advertising, sale, and use of package medicines of a proprietary character, and worked faithfully with his fellow members to formulate and secure the adoption of principles designed to safeguard the public and place the business upon a proper and acceptable basis.

An honest, earnest, and continuous student of the reciprocal relations between pharmacy, medicine and the public, Mr. Wilbert's all too short life was devoted to work for the common good.

His death will be sincerely mourned by his wide circle of personal acquaintances among the active workers in both medicine and pharmacy and by all those who knew him through his "Digest of Comments on the Pharmacopoeia, 8th Revision, and National Formulary, 3d Revision," published in collaboration with Murray Galt Motter, which is a monument to his memory and an evidence of his wide reading and continuous industry.

Lamenting our own loss we deeply sympathize with Mrs. Wilbert in her bereavement and the great sorrow that has thereby entered her life.

COMMISSION ON PROPRIETARY MEDICINES OF

THE AMERICAN PHARMACEUTICAL ASSOCIATION.

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Office of Publication, 253 Bourse Building, Philadelphia, Pa.

PUBLICATION OF INFORMATION ON DETAINED IMPORTS OF FOOD AND DRUGS AT PORTS OF ENTRY.

The Bureau of Chemistry, Department of Agriculture, gave a public hearing in the building of the Bureau of Chemistry at Washington, D. C., on Tuesday, March 20, 1917, at 10 A.M., to consider the question of publishing data on the detention of food and drugs offered for import at ports of entry. Dr. Carl L. Alsberg presided.

What the Department wished particularly to ascertain was the opinion of the trade upon the desirability of publishing such information, and the form of such publication, and also, as to whether or not such publication would injure a consignee importing goods from abroad who has had no opportunity of inspecting the same prior to their arrival and detention at ports of entry.

Representatives were present from the National Wholesale Druggists' Association, the Philadelphia Drug Exchange, the Drug Trade Section of the New York Board of Trade and Transportation, the National Association of Retail Druggists, and a number of national food organizations. Briefs from various trade bodies were filed, also.

After an extended discussion of the subject from many angles, the consensus of opinion expressed seemed to be:

(1) That it was undesirable to publish information relative to detained shipments unless the shipments gave evidence of intentional and wilful violations of the law, when the facts should be made public. (2) That the Bureau of Chemistry should coöperate with a Committee on Standards to be named by the various national food and drug interests with the view of framing tentative standards and tests for imported food and drugs. It was shown that there was precedent for such coöperation in Government work, *e. g.* Seed Department of Bureau of Plant Industry. (3) That all the methods and tests used by the Bureau of Chemistry should be made

public so that importers could know in advance of ordering goods what standards to specify.

(4) That the sampling and methods of examination of drugs should be made uniform at all the ports of entry. (5) That the Bureau of Chemistry coöperate with the food and drug trade in securing an amendment of the Federal Food and Drugs Act giving the importers the right of appeal to a court, preferably the Board of General Appraisers.

If practicable standards are framed and proper publicity is given them so that the foreign exporter and the domestic importer shall have full knowledge of the same, it was felt that better conditions would surely result and that there would be little or no necessity for publishing information relative to detained shipments.

Dr. Carl Alsberg, Chief of the Bureau of Chemistry, would not, of course, commit himself as to the attitude of his department on these suggestions, but stated that he would give them careful consideration, and that he wanted the assistance and coöperation of the trade represented by the food and drug industries. He will decide later what can be done.

J. W. E.

THE JONES-REED AMENDMENT.

The Jones-Reed Amendment was passed as a "rider" on the annual post-office appropriation bill and reads:

"That no letter, postal card, circular, newspaper, pamphlet, or publication of any kind containing any advertisement of spirituous, vinous, malted, fermented, or other intoxicating liquors of any kind, or containing a solicitation of an order or orders for said liquors, or any of them, shall be deposited in or carried by the mails of the United States, or be delivered by any postmaster or letter carrier, when addressed or directed to any person, firm, corporation, or association, or other addressee, at any place or point in any State or Territory of the United States at which it is by the law in force in the State or Territory at that time

unlawful to advertise or solicit orders for such liquors, or any of them, respectively.

"If the publisher of any newspaper or other publication or the agent of such publisher, or if any dealer in such liquors or his agent, shall knowingly deposit or cause to be deposited, or shall knowingly send or cause to be sent, anything to be conveyed or delivered by mail in violation of the provisions of this section, or shall knowingly deliver or cause to be delivered by mail anything herein forbidden to be carried by mail, shall be fined not more than \$1,000 or imprisoned not more than six months, or both; and for any subsequent offense shall be imprisoned not more than one year. Any person violating any provision of this section may be tried and punished, either in the district in which the unlawful matter or publication was mailed or to which it was carried by mail for delivery, according to direction thereon, or in which it was caused to be delivered by mail to the person to whom it was addressed. Whoever shall order, purchase, or cause intoxicating liquors to be transported in interstate commerce, except for scientific, sacramental, medicinal, and mechanical purposes, into any State or Territory, the laws of which State or Territory prohibit the manufacture or sale therein of intoxicating liquors for beverage purposes, shall be punished as aforesaid: Provided, That nothing herein shall authorize the shipment of liquor into any State contrary to the laws of such State: Provided, further, That the Postmaster General is hereby authorized and directed to make public from time to time in suitable bulletins or public notices the names of States in which it is unlawful to advertise or solicit orders for such liquors."

This is to become effective July 1. An effort was made before adjournment of Congress by officials of the N. A. R. D. and N. W.

D. A. to enact the Moon-Pomerene bill which reads:

"That the provisions of section five of the bill (H. R. 19410) prohibiting the mailing of a letter, postal card, circular, newspaper, pamphlet, or publication of any kind containing any advertisement of spirituous, vinous, malted, fermented, or other intoxicating liquor of any kind, or containing a solicitation of an order or orders for such liquors, or any of them, shall not apply to letters, circulars, catalogues, or price-lists when addressed to a manufacturer or dealer in medicinal or toilet preparations, flavoring extracts, or chemicals relating to such business."

A circular letter of the N. W. D. A. states that at the extra session of Congress vigorous efforts will be made, with every prospect of success, to perfect the Jones-Reed provision before it becomes effective. Even in the event of the failure of the movement, however, it is believed the federal authorities will so construe the Jones-Reed provision as to exempt the operations of the trade, including the use of the mails and the shipment of alcohol, wines, etc. In its present form the amendment is ambiguous and inconsistent in that it specifically permits interstate shipments of alcohol and wines to be made for trade purposes, while at the same time it prohibits the transmission in the mails of catalogues, price-lists and correspondence relating thereto. It is a settled rule of statutory construction that all parts of ambiguous statutes must be considered together and must receive a reasonable interpretation; hence, while it is manifestly preferable that the law should be clarified by supplemental enactment, there is no reason to believe that, in default of modification, its provisions will be construed to the embarrassment of drug manufacturer, jobber or retailer.

WE BOAST OF A GREAT CIVILIZATION, BUT THIS IS JUSTIFIED ONLY WITHIN LIMITS.

"Science more nearly dominates the world than at any time in the past. Learning permeates the masses more deeply, but credulity and ignorance are widely prevalent. In this country of 100 millions, there are thousands whose greed impedes the progress of the whole, tens of thousands whose ignorance retards their own growth, and other thousands who live by crime and procreate their kind to feed on generations to come. We have our schools, colleges, and universities, while our almshouses, insane asylums and penal institutions are full. In our cities we see the palatial homes of the very rich, the splendid temples of trade and commerce, the slums of want and poverty, and the homes, both rich and squalid, of vice and crime. No nation in this condition can be given a clean bill of health. Our hilltops are illuminated by the light of knowledge, but our valleys are covered by the clouds of ignorance. We have not emerged from the shadows of the dark ages."—(Victor C. Vaughan, *International Journal of Surgery*, March, 1917.)

LETTER TO THE EDITOR.

DEAR SIR:

I have read with interest your editorial in the February number of the JOURNAL in which you favorably comment on the papers presented by Messrs. F. E. Stewart and J. W. England at the meeting of the Philadelphia branch, January 17, 1917, on the subject of the revision of the United States Patent Laws and urge your readers to correspond or confer with their senators and representatives for the purpose of securing their support in the effort to do away with the product patent in medicinals.

It seems to me that the small group of men in the drug and chemical trade who are striving with might and main to keep this subject alive permit their hunger for a share of the business controlled by a few foreign owners of product patents in this country to blind their eyes to the needs of our American chemical and pharmaceutical manufacturers.

Without the product patent there would be no further development of American chemical or pharmaceutical industry. What concern would be willing to invest thousands—yes, hundreds of thousands—of dollars in research work if they could not secure full protection for at least a limited period of time on the occasional product of this expensive research?

There is no protection whatever in a process patent only because only through a spy system in your competitor's factory or laboratory could you possibly tell whether your process was being infringed upon or not, and what decent self-respecting American manufacturer wants to do business that way?

The kind of American industry which the present product patent law very wisely and properly discourages is that of the pirate variety, which you can be certain would flourish abundantly under the process patent only. Immediately a valuable discovery was made public under a process patent dozens of concerns would begin tearing it to pieces seeking a way to get around the patent in order to obtain profit for themselves out of the other fellow's brain and initiative. The result would be that men would not take out patents but would strive to practice their invention in secret, and if successful would have for themselves a perpetual instead of only a seventeen-year franchise, as the present product patent contract with the government provides, and the public would be the loser.

I cannot in this letter undertake to answer all the arguments advanced by Messrs. Stewart and England, but they can be easily controverted and in due time will be.

The purpose of this letter, which I ask you to be good enough to publish in the April JOURNAL, is simply to let your readers know that there are two sides to this product patent question and that those who favor the product patent expect to make themselves heard. I am sure you will give us the same prompt publicity given those who oppose it.

In closing I wish to give for the information of your readers the following resolution adopted by the American Drug Manufacturers' Association (then the National Association of Manufacturers of Medicinal Products) at its annual meeting in New York in February, 1916:

"WHEREAS, The Constitution of the United States of America gives Congress the power 'to promote the progress of science and useful arts by securing for a limited time to authors and inventors the exclusive right to their writings and discoveries,' and

"WHEREAS, In no field is discovery of greater importance to the welfare and health of the people of the United States than in the field of medicine, pharmacy and surgery, therefore be it

"Resolved, That this Association is opposed to any amendment of the Patent, Trade-mark and Copyright Laws of the United States of America that shall directly or indirectly effect discrimination against inventions and discoveries in chemistry, pharmacy, medicine or surgery; fully believing that the undue exploitation of the American public by foreign inventors can be remedied by measures that will not discourage American chemical, pharmaceutical and biological research workers from endeavoring to discover products that will take the place of products that America must now depend upon Europe for; and processes for making other substances we are now obliged to do without because of conditions we cannot control."

This Association numbers in its membership all the important medicinal, chemical, pharmaceutical, biological and surgical dressing and plaster manufacturers of the country.

Very truly yours,

CHAS. J. LYNN, *President.*

Indianapolis, March 29, 1917.

AMERICAN DRUG MANUFACTURERS' ASSOCIATION.

OBITUARY.

CONRAD LEWIS DIEHL.

1840—1917.

Professor Diehl came to this country in 1851 at the age of eleven years, his father being a political refugee from Germany. He was born in Neustadt A. H. in Rhenish Bavaria. He was the eldest son of Therese Phillipine Rossi and Conrad Lewis Diehl.

Lewis and his brother entered school at Oakfield Academy, near St. Louis, but he left school permanently in 1854 and joined his father in Philadelphia, obtaining a position with R. and G. A. Wright, perfumers and drug sundrymen, where he remained until 1857. In 1858 he began an apprenticeship with an excellent pharmacist who practiced medicine, Dr. John R. Angney, of Philadelphia, and while there he attended the Philadelphia College of Pharmacy. He next accepted a position with Emilius Herwig, of Fifth and Brown Streets, Philadelphia, and became acquainted with German pharmacy. Subsequently he entered the employ of John Wyeth and Brother, where he worked in the laboratory until August, 1862, when he enlisted in the 15th Regiment of Pennsylvania Volunteer Cavalry.

He served gallantly in this Regiment until the Battle of Stone River, when he was severely wounded. After convalescence he obtained the position of assistant chemist in the United States Army Laboratory of Philadelphia, remaining there from April 1863, to January 1865. He and Professor Maisch became associated and the intimate friendship never ceased until the death of Professor Maisch.

At the close of the Civil War, Professor Diehl accepted a position with Ernst George Mueller and subsequently became a manufacturer of chemicals in the laboratory of Bender, Mahla

and Company, remaining there until July 1865, when he became manager of the Louisville Chemical Works, which position he held until December 1868.

In June 1869, he purchased a drug store in Louisville at First and Walnut Streets, and in August 1874, he opened a new store at the corner of Third Avenue and Broadway which he conducted until 1903.

In 1863 he read his first paper on Oleum Aethereum at the meeting of the American Pharmaceutical Association and was elected a

member. In 1866 he was appointed Chairman of the Committee on the Progress of Pharmacy and in 1872 he made a report on the progress of pharmacy, which was presented at the Richmond meeting in 1873, and it was in this year that he began his services as Reporter on the Progress of Pharmacy. He held this position nearly forty years, resigning in 1915. In 1890, owing to ill health, he declined re-election, but again took the office in 1895. In 1874 he was elevated to the highest position in the gift of the Association, being elected its President.

Professor Diehl might properly be called the founder of the Louisville College of Pharmacy.

He was elected its first President in 1870 and was re-elected annually until 1881, when he declined the position. He was made Professor of Pharmacy in this College in 1871 and served until 1916. There was an interim in his services from 1881 to 1883.

Professor Diehl was a member of the Committee of Revision of the United States Pharmacopoeia first in 1890 and was elected to the Committee at the Conventions of 1900 and 1910, a period of twenty-seven years of continuous service.

He was also Chairman of the Committee of Revision of the National Formulary (second



C. LEWIS DIEHL

Twenty-second President of the American Pharmaceutical Association.

For thirty-eight years Reporter on the Progress of Pharmacy; for twenty-eight years identified with the work on the National Formulary.

revision) published in 1896, and he continued in this position until 1917. He was able to serve both Committees of the National standard authorities and was of great service in preventing duplication of processes and formulas in both books.

In his own State, Professor Diehl was a member of the first Board of Pharmacy of Kentucky in 1874, on which he remained until 1886. In 1897 he again accepted appointment to the Board and was a member until the time of his death. He was President of the Kentucky Pharmaceutical Association and he was regarded as a tower of strength not only in his own State, but in the country of his adoption.

In reviewing his life, one must be struck by the great capacity for work which he possessed. He was a great student; he soon acquired a mastery of the English language and one of his great services to pharmacy was rendered through his ability to abstract from various foreign and domestic journals the salient points and pith of the various papers. This he rendered in language easily understood by readers of the Proceedings. This great gift, though appreciated by many of the members of the Association, was overlooked by many others who did not realize the difficulties of the abstracter.

He died in the City of Louisville on Sunday, March 25, 1917, and thus has passed away one of the most devoted, earnest, and faithful members of the profession of pharmacy in America.

He is survived by his wife, and three daughters, Mrs. Emily Frank, Miss Eleanor Diehl and Miss Jennie Diehl. •

JOSEPH P. REMINGTON.

IN MEMORY OF PROF. C. LEWIS DIEHL.

JOHN F. HANCOCK.

C. Lewis Diehl was an educator and an uplifter of pharmacy.

We were friends for many years. Each of us joined the American Pharmaceutical Association in 1863 at the annual meeting held in the City of Baltimore. He was a man of great mental ability and industry. In his early life he had some special advantages in laboratory work.

He was the Soul of Honor and his master work for many years as reporter of the Progress of Pharmacy of the American Pharmaceutical Association was a favorable introduction to the large membership of that organization.

Previous to 1872, when the Report depended upon a committee, the results had not been

satisfactory and a committee was appointed in 1872, consisting of Wm. Procter, Jr., Ed. Squibb and E. H. Sargent to consider better means to secure more satisfactory reports. The Committee presented the following at the Richmond meeting in 1873:

"RESOLVED, That after careful consideration followed by a full consultation with Mr. Diehl who had voluntarily consented to perform that service in the previous year, with credit to himself and satisfaction to the officers and members of the Association, they proposed the name of C. Lewis Diehl with the proviso, that he be paid an annual salary for his laborious services."

He was the first Reporter on the Progress of Pharmacy elected by the Association and proved so eminently satisfactory in the performance of his duties that no other member had the courage to aspire to the position until age and infirm health made him unequal to the task.

The annual reports on the Progress of Pharmacy were in themselves worth more to each member who was interested in the progress of pharmacy than the annual dues. This I have often suggested to those whom I have endeavored to induce to join the Association. These reports alone will stand as a record of his ability and should endear his memory to every member of the American Pharmaceutical Association.

Though he had become too feeble to take an active part in the meetings, he was an annual attendant and his popularity was manifested at the Atlantic City meeting last year by the hearty applause he received when he entered the room where the first general session was being held.

JOSEPH L. LEMBERGER.

Surely the body of the American Pharmaceutical Association is being invaded: One by one, the last roll call is answered, this time by one to whom a large majority of the membership were endeared for the valuable service rendered by him. For over fifty years we have met at our annual gatherings, and until in recent years, when physical infirmity prevented, the Association was the recipient of his herculean labor, his good work as the Reporter of the Progress of Pharmacy for thirty-seven years. This will ever be a monument to the skilful, energetic and intelligent effort of Professor Conrad Lewis Diehl. From early boyhood, to advanced age, his was an

interesting career. He was a good citizen, a diligent workman, and at the call of his country a loyal patriot.

In common with many of the members who shared his friendship and congenial fellowship, we feel his death as the personal loss of a friend, and join in sincere sympathy for the bereaved family.

JAMES M. GOOD.

The grim reaper has been very busy of late, in gathering to himself our prominent members.

The announcement of the death of our friend and old-time member of the A. Ph. A., although not unexpected, gives each of many of us a day of sadness. Not being personally well known by the younger, active members of the Association, yet they are all well acquainted with his work as Reporter on the Progress of Pharmacy and fully appreciate it. This work, in the form presented by him, we may properly consider completed, and it remains as his monument.

He leaves a host of friends in the A. Ph. A. He was the peer of such men as Maisch, Procter, Parrish and Squibb. He was one with them and of them. He was a connecting link between us and them. We cannot think of him without visions of them standing before us. His last days were those of anxiety and more or less suffering. His death brings rest and peace. We say: "Well done, good and faithful servant, enter thou into thy reward."

JOHN URI LLOYD.

Your letter, advising me of the death of Professor C. Lewis Diehl is to me exceedingly painful, for more reasons than one. From the time that I became concerned in the American Pharmaceutical Association, Professor Diehl has been to me a companion, not only at the meetings, but in the pleasurable visits we have had between times. He accomplished much in his long service to the Society, and established for himself a monument in the record that he made in the Progress of Pharmacy Section, in the Proceedings, so many years, in fact, I may say, decades. Nor need any one attempt to introduce to your readers the Professor Diehl so well known to all, and especially to one of the "Old Guard," of whom so few are left, of the class that embraced Professor Diehl and myself.

Each recurring year brings to me new vacant

places, with accompanying personal heart-aches, and when in Atlantic City last fall Professor Diehl and I sat together on the stage, there came to me the sad reflection that within a very short time, we too must be parted. That time has come.

FREDERICK J. WULLING.

I first became acquainted with C. Lewis Diehl in 1885 when I was introduced to him by my good friend and preceptor Prof. P. W. Bedford in New York City. At that time I did not yet have much pharmaceutical information. That accounted for the great respect I immediately gained for Prof. Diehl because of his wide and profound knowledge of pharmacy, which respect, however, I never lost thereafter. A few days of association with him at that time made me resolve to leave nothing undone to acquire at least as extensive an acquaintance with pharmacy as Prof. Diehl had. I remember distinctly having asked him for an estimate of time it would require for me to know as much about pharmacy as he did. He replied saying that it would not take very long to learn as much as he then knew, but that since he had not yet finished his pharmaceutical education and did not expect to finish it until he died, I would have to live a long time to catch up with him. While he said this jokingly, I at once caught the truth of the remarks. I first learned from Prof. Diehl the lesson that our own personal education is never finished, but that we are in a process of constant mental evolution, the degree of development depending upon the earnestness and will-power that we employ.

Not only has Prof. Diehl been an inspiration to many young men just starting out upon pharmaceutical careers, but he has been one of the foremost contributors to everything else that tends toward better and higher standards of pharmacy. He has made for himself an enviable position in the pharmacy of his time. His work on the National Formulary on the U. S. Pharmacopoeia, as teacher, ethical practitioner, Reporter on the Progress of Pharmacy of the A. Ph. A. and pharmaceutical writer has had a deep, profound and affirmative influence upon pharmacy. His gentleness, kindness, forbearance and patience have had an ennobling influence upon all those who had the privilege of his friendship and acquaintance. Pharmacy has sustained a great loss in his demise. The practical and necessary question with us who remain is to win for the calling

such young and new men who have in them the promise and ambition of becoming as efficient, loyal and kind pharmacists and men as C. Lewis Diehl was.

HENRY MILTON WHELPLEY.

The long and useful life work of Professor C. Lewis Diehl in pharmacy is on public record and a matter of common information. I will not dwell on it at this time.

Professor Diehl also had an extended personal acquaintance. This might be expected of one who had been in public pharmaceutical work for more than a half a century. With Professor C. Lewis Diehl, the personal acquaintances were by no means confined to those coming to him in the pharmaceutical eye. It was his personality which won intimate and lasting friendships.

I had the good fortune of becoming personally acquainted with Professor Diehl in 1884 and we met at least annually since that time. He was one of those persons who caused you to feel pleased with each interview. He took a genial view of life and imparted optimism to others. He was always ready to talk about pharmaceutical affairs but never bored you with uninteresting details. He did not go out of his way to criticize others. He was one of those few people who had plenty of time to mind his own business. After a visit with Professor Diehl, you thought all the more of him and also of others who happened to be concerned in the conversation.

The passing of Professor C. Lewis Diehl removes another and very nearly the last of the coterie which included Diehl, Ebert, Maisch, Gordon, Markoe, Searby, and from there extended back to the time of Procter and Parrish.

GEORGE M. BERINGER.

The grim Reaper has exacted heavy toll from the ranks of pharmacy during the last few months. With the decease of C. Lewis Diehl, a former President of the American Pharmaceutical Association, another of the commanding figures, of what could appropriately be termed the first century, of American pharmacy, has crossed to the Great Beyond.

I esteem it as one of the greatest privileges of my pharmaceutical career to have been associated with him and to have enjoyed his friendship. As a member of the Committee on National Formulary, we corresponded on many topics and likewise in the work of the

Pharmacopoeial Revision, we were associated on a number of the committees and this also necessitated frequent correspondence.

His letters always gave a keen enjoyment and impressed me with his many great qualifications. They demonstrated the personality of the writer, the mental poise, the high ideals, the clearness of thought and accuracy of expression, the forcefulness tempered with reserve and kindly consideration for the views of others, the earnestness and sincerity of a real friend. He was always accurate and his opinions were concisely and clearly stated and supported by reasons that demonstrated that they were based upon thoughtful consideration.

As a soldier, as an official, as a pharmacist, C. Lewis Diehl always well performed his duty. In his devoted work in behalf of his chosen calling, he sacrificed his personal financial gain that pharmacy might be enriched. The achievements that will survive and commemorate his life are undoubtedly that monumental work—"Abstracts on the Progress of Pharmacy" and the National Formulary.

As an abstractor of the literature of pharmacy and the cognate sciences, he has had no superior. His choice of matter, the completeness, the accuracy, the arrangement were ideal.

The several editions of the National Formulary, prepared under his chairmanship and editorship unquestionably reflect very largely the personal work of Professor Diehl. He carried this work through the several stages of its evolution and without this preliminary and well laid foundation, the National Formulary could not have achieved its present form and legal status.

In recent years, his failing health precluded his undertaking the labors that he loved and to which he had devoted so much of his life and in our conversations and correspondence he not infrequently expressed his regret thereat.

He was well informed on the topics of the times as well as on matters scientific and pharmaceutical and I enjoyed greatly the conversations that we had at the meetings of the A. Ph. A. and on the several visits that he made me. These have added to and materially aided in strengthening those invisible bonds of friendship that bind kindred spirits. I would not miss this opportunity of adding my tribute of appreciation of his work, his worth and character and of expressing the sorrow at the removal of this sincere friend that I so keenly feel.

LEWIS C. HOPP.

In the death of C. Lewis Diehl, American Pharmacy loses one of the few great men left in pharmacy. He was a big man, thorough and conscientious: a man of the highest ideals.

He was one of the pillars of strength in the A. Ph. A. always of good sound judgment. Many times in Council session when knotty questions came up with every one at sea, some one would say, "Diehl, what is your opinion? What do you say?" And in a few words he would clear the atmosphere.

Words are inadequate to express my admiration for Mr. Diehl. I never lost the opportunity of spending a little time with him at each meeting of the Association. To know him was to love him.

J. W. ENGLAND.

Conrad Lewis Diehl will be remembered in American Pharmacy long after many of his contemporaries have been forgotten. His services have been invaluable. For thirty-eight years, he was Reporter on the Progress of Pharmacy and for twenty-eight years he was most actively identified with the work of the Committee on National Formulary. But it was not the number of his years of service alone that made them so worth-while; it was the high, scientific quality of his work, rendered possible by his analytical mind, his well-balanced judgment and his whole-hearted devotion to the profession he loved so well. His work was constructive, never destructive, and his labors for pharmacy will bear fruit through the years to come and be a lasting monument to his memory.

He had the respect and esteem of a troop of friends who can say with Fritz Greene Halleck:

"Green be the turf above thee,
Friend of my better days.
None knew thee but to love thee
None named thee but to praise."

W. B. DAY.

In the death of Professor Diehl, the pharmaceutical profession loses one of its finest representatives and the American Pharmaceutical Association mourns the passing of a leader who gave his time and effort without stint to its cause. As a teacher, state board member, writer, investigator and pharmacist, Conrad Lewis Diehl ranked high, but the beautiful character of the man himself endeared him to all who knew him.

JULIUS A. KOCH.

The news of Prof. Diehl's death comes to me as a great shock. With him the American Pharmaceutical Association and American Pharmacy have lost a most able defender.

I am sure that few of us realize the vast amount of work which Prof. Diehl has been able, in his long and busy life, to accomplish for the good of his chosen profession.

JOHN G. GODDING.

The passing away of Prof. C. Lewis Diehl removes one who has devoted his life untiringly to pharmacy.

His work in the American Pharmaceutical Association will stand as a lasting monument to his memory. Indeed the A. Ph. A. loses one of its most valued members. To me it is the loss of a personal friend.

E. G. EBERLE.

Few members of the American Pharmaceutical Association ever succeeded in winning, to the extent that Professor C. Lewis Diehl did, the love and respect of the membership. What a thronging host of loving reminiscences the memory of him calls up as well as of generous deeds and unselfish sacrifices in behalf of his country and profession. We would not have the time ever come when we should not grieve over the loss of our friends for, while we have them in our hearts, the gap made by their loss is never wholly filled; even after a time when their name is mentioned, we think of them because they are missed from among us.

The American Pharmaceutical Association is better for his having been a member of it and we are fortunate who knew Professor Diehl, remembering not only his companionship but his labors for pharmacy.

JOSEPH FEIL.

Joseph Feil, of Cleveland, Ohio, and for many years Dean and Professor of the Cleveland School of Pharmacy, died at his home February 3. Joseph Feil received his early education in the schools of Cleveland. After leaving school he worked in a Cleveland wholesale grocery, but soon engaged in the pharmacy of H. Hensch. He came to Philadelphia and also clerked for a time in Towanda, Pa., and was apothecary assistant in the New York Hospital. He attended both the Philadelphia and New York Colleges of Pharmacy. He graduated from the latter institution in 1880.

Returning to Cleveland, he engaged as chemist with Strong, Cobb & Co., and thereafter entered the drug business on his own account. He soon, however, devoted his entire time to teaching and held the professorship of chemistry and physics in the Cleveland School of Pharmacy and was also professor of chemistry in the Medical Department of Wooster University, and instructor



JOSEPH FEIL

in natural sciences in the Cleveland Central High School, a position held by him for thirty years. Professor Feil was very active in the Ohio State Pharmaceutical Association, to the proceedings of which he contributed many valuable papers. He joined the American Pharmaceutical Association in 1885.

Professor Feil was in his sixty-second year, and is survived by his wife, two sons and one daughter.

ROBERT WALTER WHITE.

Robert W. White, druggist at 56th and Lansdowne Avenue, Philadelphia, was stricken with apoplexy February 19. Mr. White was born in Chambersburg, Pa., February 3, 1864, received his preliminary education in that city and afterward attended Dickinson College, at Carlisle, Pa. Returning to Chambersburg, he became an apprentice in a drug store and afterwards attended the Philadelphia College of Pharmacy, graduating in the class of 1888.

After graduation he worked for a time in Lock Haven, after which he returned to Philadelphia and accepted a position with William MacIntyre, where he remained until 1907. Then he opened a drug store on his own account and here he remained in business until the time of his demise. Mr. White was active not only in business but also in association matters, taking particular interest in the Philadelphia Retail Druggists' Association, of which he was president in 1916. Mr. White is survived by his wife, formerly Miss Lillian Shank of Chambersburg, three sisters and three brothers. Interment was made at Chambersburg, under the auspices of the Masonic bodies. Mr. White became a member of the American Pharmaceutical Association in 1911.

IN MEMORY OF DR. WILLIAM C. ALPERS.

Doctor Alpers was one of the most striking and interesting figures in contemporary pharmacy. He brought to the practice of pharmacy an unusually well-drilled mind, with a broad knowledge of the sciences and a command of English which was all the more remarkable in a man with whom English was a secondary language. His contributions to the Proceedings of the American Pharmaceutical Association were characterized by an unusual combination of scientific knowledge with practical training. He had the faculty of presenting facts in the most interesting manner and his papers were always listened to with interest. He was also endowed with the gift of humor and made an excellent presiding officer at the informal sessions of the Diastase Section. This gift of humor shone out brilliantly in a brief address at the Asheville meeting of the A. Ph. A., in which he voiced the thanks of the Association to the local pharmacists. Doctor Alpers was a man of very strong convictions and having once adopted an opinion he was tenacious in his advocacy of it in spite of the most active opposition. While this quality brought him into frequent conflict of opinion with others, such differences did not necessarily lead to estrangements since the purity of his motives was always unquestioned. He had been constant in his attendance at the meetings of the Association and will be missed by a wide circle of the older members of the Association who knew him well.

CASWELL A. MAYO.

SOCIETIES AND COLLEGES.

THE AMERICAN PHARMACEUTICAL
ASSOCIATION CONVENES IN
INDIANAPOLIS AUGUST 27-
SEPTEMBER 1, 1917.

The sixty-fifth annual convention of the American Pharmaceutical Association will be held in Indianapolis, August 27-September 1, and the Claypool Hotel has been selected as headquarters for the Association; Francis E. Bibbins is local secretary.

The American Conference of Pharmaceutical Faculties and the National Association of Boards of Pharmacy will convene August 27 and 28.

The Committee on Transportation will soon announce rates and routes to the convention. Indianapolis is centrally located and therefore a very large attendance is expected; hotel accommodations are ample, and opportunities for visiting places of pharmaceutical and sight-seeing interest will be afforded.

There are many lake resorts nearby and those who desire to extend their visit can arrange their tickets accordingly.

TO THE MEMBERS OF THE AMERICAN
PHARMACEUTICAL ASSOCIATION.

The Commission on Proprietary Medicines invites a free expression of opinion by members of the Association upon the following questions:

(1) Will the open formula, *i. e.*, publication of the active ingredients on the label, be likely to increase or decrease the sale of proprietary medicines as a whole?

(2) Will the publication of the formula on the label be likely to change the legal responsibility of retail dealers, who have hitherto been declared by the courts not to be responsible for damage resulting from the use of proprietary medicines, concerning the composition of which they were uninformed?

(3) What benefit would the public derive from the publication of the formula of a proprietary medicine on the label?

(4) If the formulas of proprietary medicines are not published, can the public be protected against fraud or injury by a proper system of inspection and analysis?

(5) Instead of the requirement of the publication of all active ingredients as above stated, would it be advisable to require simply a statement of certain potent drugs, or of those deemed to be so active that the purchaser should be informed of their presence?

(6) If you believe the last proposition to be preferable to the publication of the complete formula, what definition would you propose for potent drugs; or, instead of a definition, what list of drugs would you propose for statement?

(7) If you favor neither of the two main propositions above stated, namely, publication of the entire formula, or of potent ingredients only, what are your views as to a law requiring the communication of the active ingredients to some official bureau authorized to pass upon or approve or disapprove preparations offered for sale generally to the public?

(8) If you approve the last proposition, would it be possible to draft a law that would prevent unreasonable condemnation of formulas by the official bureau, or to prevent sectarian prejudice from influencing its determinations? For example, would a board composed of "old school" or regular physicians be inclined to pass or reject a homeopathic remedy for rheumatism upon a statement of its contents?

(9) Should such a bureau be composed of physicians exclusively or should pharmacy be represented in the membership, and to what extent?

(10) Should a bureau charged with the duties above specified be municipal, state or national?

Those interested in knowing what has previously been said by members of the A. Ph. A. upon the above are referred to the issue of the JOURNAL for Dec. 1916. A reprint of this paper will be sent by the Chairman of the Commission, on request.

Address all communications to

J. H. BEAL,
Urbana, Ill.

IOWA PHARMACEUTICAL ASSOCIATION.

The Iowa Pharmaceutical Association held a mid-winter session February 20 and 21, at Des Moines. It was largely legislative in character and the results were very satisfactory. Governor Harding attended the first session and expressed himself in full sympathy with the purposes of the organization and agreed that the state should recognize and assist in the promotion of work carried on by

the Association. It was decided that an exhibition of military hospital work would be given in conjunction with the program of the annual meeting. This seems indeed a very timely topic and more general attention should be given to this very important subject by all pharmaceutical associations.

An address was made by the Iowa State Insurance Commissioner, Mr. E. H. English, on "The Iowa Insurance Laws." Honorable Lawrence DeGraff, judge of the Iowa district court, and an authority on pharmacal jurisprudence, spoke on "The Druggist's Liability under the Common Law." He contended for the necessity of better educational standards for pharmacists. Hugh Craig, editor of the N. A. R. D. Journal, spoke on "Some Problems of Legislation, National and State," in which he analyzed the various legislative measures now under consideration. While the meeting was primarily a business session, there were also a number of entertainments provided.

BUFFALO COLLEGE OF PHARMACY.

Charles H. Gauger has completed ten years' service as instructor in the pharmacy laboratory of the Buffalo College of Pharmacy. For over seventeen years he has acted as treasurer of the Alumni Association. In recognition of both of these facts the Faculty and the Alumni Association recently tendered him a testimonial dinner. It was given at the Lennox Hotel. A number of ladies were present, including Mrs. Gauger. Thirteen classes of alumni were represented. Among those from out-of-town were Mr. and Mrs. Lee W. Miller, of Niagara Falls, N. Y.

As a souvenir of the occasion the Faculty presented Mr. Gauger with a Dispensatory. So many of those present were friends of long standing that the affair soon resolved itself into a family round table of anecdote and reminiscences. The informality of the occasion was enjoyed by every one present and the freedom from set speeches was also appreciated. Dean Willis G. Gregory presided.

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of change of address is received before shipment or mailing.

Both the old and the new address should be given thus:

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From 2342 Albion Place, St. Louis, Mo.

To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

CHANGE OF ADDRESSES SINCE FEBRUARY 18, 1917.

FRAME, A. W.,

From care Merck & Co., Rahway, N. J.

To 14 Lincoln Ave., Rahway, N. J.

GORDON, JEAN, MISS,

From 1415 Byron St., Chicago, Ill.

To care Mrs. M. E. Affonin, 2752 W. Polk St., Chicago, Ill.

LOUSSAC, Z. J.,

From 107 Front St., Juneau, Alaska.

To Anchorage, Alaska.

HARRIS, S. J.,

From 3131 Washington St., San Francisco, Cal.

To 3032 Washington St., San Francisco, Cal.

STIER, CARL,

From U. S. Quarantine Station, Boston, Mass.

To U. S. Marine Hosp., Baltimore, Md.

WINTERS, A. J.,

From 522 Pleasant St., Oak Park, Ill.

To 605 Humphrey Ave., Oak Park, Ill.

BOTE, L. E.,

From U. S. S. Beale, Philadelphia, Pa.

To U. S. S. Wisconsin, Philadelphia, Pa.

ARMSTRONG, T. C.,

From U. S. Marine Hosp., Chelsea, Mass.

To U. S. Marine Hosp., Vineyard Haven, Mass.

WOOD, FRANK D.,

From 202 Front St., Morgantown, W. Va.

To 505 Beechnut Ave., Morgantown, W. Va.

POCZOS, JOSEPH,

From 301 Hancock Ave., Bridgeport, Conn.
To 419 Hancock Ave., Bridgeport, Conn.

BERGER, LOUIS,

From 470 Lenox Ave., New York, N. Y.
To 79 E. 130th St., New York, N. Y.

HERRON, CHAS. S.,

From care Burrough Bros. Mfg. Co., Baltimore, Md.
To 141 N. 15th St., Philadelphia, Pa.

SADTLER, S. P.,

From N. E. Cor. 10th & Chestnut Sts.
Philadelphia, Pa.
To 210 S. 13th St., Philadelphia, Pa.

KOLSCH, HARRY,

From 202 Harrison St., Leadville, Colo.
To 310 Harrison St., Leadville, Colo.

STARWALT, E. J.,

From 1371 12th St., Detroit, Mich.
To 104 Linden St., Detroit, Mich.

MOLLET, CHAS. E.,

From 523 Woodford St., Missoula, Mont.
To 412 Plymouth St., Missoula, Mont.

ELLIOTT, F. H.,

From 21 Medford St., Medford, Mass.
To 16 Everett St., Melrose, Mass.

DECEASED SINCE FEBRUARY 18, 1917.

ALPERS, WM. C., 1353 Central Ave., Cleveland, Ohio.

BOOK NOTICES AND REVIEWS.

Organic Materia Medica and Pharmacognosy.

—By Lucius E. Sayre, B.S., Ph.M., Dean of the School of Pharmacy; Professor of Materia Medica in the University of Kansas; Member of the Committee of Revision of the United States Pharmacopoeia; Director of Drug Laboratory for the State of Kansas. An introduction to the study of the vegetable kingdom and the vegetable and animal drugs comprising the botanical and physical characteristics, source, constituents, pharmacopoeial preparations, insects injurious to drugs, and pharmalcal botany. Fourth edition, revised; 302 illustrations; 606 pages. Price \$4.50 net. P. Blakiston's Son & Co., Philadelphia.

The table of contents indicates that the work is divided into four parts, Part I including different forms of classification of drugs, such as therapeutically, structurally and according to prominent physical properties, especially the odor and taste. This part includes a list of inorganic drugs and of the newer remedies. Part II includes a description of organic drugs of the vegetable and animal kingdoms arranged according to natural orders and has a chapter on drug assay processes. Part III is devoted to insects injurious to drugs. Part IV discusses powdered drugs, reagents and chemical methods of demonstrating the nature of cell walls and cell contents.

This revision contains many improvements over the previous editions of Professor Sayre's work. Especially should be noted the omission of the rather long and highly technical histological descriptions in connection with the botanical drugs. This omission makes

the general description of the drug much more readable to the average student of materia medica. The mention made of the action and uses of the drug is well presented, being neither too extensive nor a mere listing of the therapeutic groups to which the drug belongs.

The matter relating to the commercial source of the drug is much to be preferred to the old style mention of the habitat of the plant.

Unfortunately, Professor Sayre has not given the same standing to all of the N. F. drugs. Some of them receive the same style of heading and about as much description as the U. S. P. drugs, while others are classed with the unofficials and the fact that they are N. F. is hardly indicated. Surely since the National Formulary is now recognized as a standard in materia medica, the N. F. drugs should each receive the same rank, even though this rank is somewhat lower than the U. S. P. drugs, and they should not be classed with the unofficials.

A few errors, typographical and otherwise, have been noted, though some errors cannot be avoided in a work of so large a scope, even with the utmost care. There was particularly noted on page 340 the omission of the last syllable of "Methylis" in the term "Methylis Salicylas;" on page 343, the "r" should be eliminated from "Ebenarceae;" on page 413, the term "Colocynthidis Pulpa" should be "Colocynthis."

On the whole, the text seems to be quite free from errors and this revision no doubt will maintain the high standard as a materia medica text-book held by its predecessors.

E. N. GATHERCOAL.

JOURNAL ANNOUNCEMENTS.

Subscriptions: Annual subscriptions in advance, including postage: United States and Mexico, \$4.00; Canada, \$4.35; foreign countries, \$4.50. Single copies, 35 cents. Remittances should be made payable to Treasurer H. M. Whelpley, but mailed to JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, Easton, Pa., or 253 Bourse Building, Philadelphia, Pa. Under the rules of the Post Office the JOURNAL can be regularly mailed only to bona-fide paid subscribers.

Requests for Back and Missing Numbers: Requests for back and missing numbers should be sent to the Editor. Claims will not be allowed if sufficient notice has not been given of change of address, and in no case if received later than sixty days from date of issue. Notice of change of address should give old and new address.

Contributions: The JOURNAL accepts no responsibility for the opinion of its contributors. Contributions should be sent to the Editor; use only one side of the sheet for writing, and double-space the lines. Articles are accepted for publication on condition that they are contributed solely to this JOURNAL; and "all papers presented to the Association and its Branches shall become the property of the Association, with the understanding that they are not to be published in any other publications than those of the Association, except by consent of the Committee on Publication." (By-Laws, Chapter X, Article 11.)

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Membership: Applications for membership in the American Pharmaceutical Association may be made of any of the officials. The annual payment of five dollars covers the annual dues and subscription to the JOURNAL. Members receive, also, the publications of the Association that are distributed free of charge.

Further information will gladly be furnished by any of the officers of the Association and members.

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SHOW YOUR INTEREST IN PHARMACY.

For several months past a request has appeared in the JOURNAL that members indicate whether they desire a cut of the insignia of the Association with name "Member" above, as appended, for their Prescription Blanks. A sufficient number of members have signified their interest and therefore these cuts may now be had by addressing the JOURNAL Office as below.

The cost of single type-cut, including postage, is fifteen cents; when two are ordered at the same time, twenty-eight cents. The charge is simply to cover cost and postage.



THE JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

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THOMAS F. MAIN

NEW YORK

Honorary President of the American Pharmaceutical Association, 1912



THOMAS F. MAIN.

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

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NO. 5

THOMAS FRANCIS MAIN.

Thomas F. Main, of New York, who was elected Honorary President of the American Pharmaceutical Association in 1912, at the Denver meeting, died April 27, 1917, of pneumonia, at St. Mary's Hospital, Orange, N. J. He was born in Greenwich, England, May 9, 1849, and came to the United States in early youth. He entered the drug business and matriculated as a student of the New York College of Pharmacy while employed in the retail department of Tarrant & Co., graduating with the class of 1871. After graduation he continued as head of the retail department of the above-named company and organized its pharmaceutical laboratory. In 1876 he bought an interest in a pharmacy located at New Britain, Conn. In 1878 he acquired an interest in Tarrant & Co., becoming also the general superintendent and later president and treasurer. On account of the wholesale and manufacturing interests of this company, Mr. Main identified himself with the National Wholesale Druggists' Association, in which he took a very active part up to the time of his demise. During the many years of his connection with that association, he served this body in many capacities, being honored also with the presidency in 1894.

Soon after graduation from the New York College of Pharmacy, he helped to organize the Alumni Association and served as its president, and for many years was treasurer of the organization. As a delegate from this body Mr. Main attended the Cleveland meeting of the American Pharmaceutical Association, in 1872, and became a member of the Association at that time. During all these years he has been a faithful and loyal member, not only recognizing that the American Pharmaceutical Association stands for the highest ideals in pharmacy but exerting every effort in its welfare and promotion. It was in recognition of his work that he was unanimously elected Honorary President of the Association. He early recognized the mutuality of interests between the associations that he was so deeply interested in, and, in speaking before the American Pharmaceutical Association as a delegate from the National Wholesale Druggists' Association in 1886, emphasizing this point, he said, "As you are well aware, between individual members of both associations, there exists certain intimate relations and there seems to me to be no reason why the relations between the two associations should not be very fraternal and close, inasmuch as I find in the articles of your constitution that one of your

principal aims is to regulate the drug markets, prevent the importation of poor drugs, and expose sophistication and adulteration. On these grounds both of these associations can join hands."

Mr. Main was at the time of his demise secretary of the New York College of Pharmacy and also honorary president. Mr. Main was a bachelor; a sister died several years ago, and his only relatives in this country are two nephews.

In the American Pharmaceutical Association, he always occupied a place on important committees. He was a broad-gauged man of business, whose extended experience and sound judgment was ever at the command of his friends and the organizations with which he was connected. He was genial and most courteous in his relations with his fellow-men; while strong in his opinions, he was always tolerant of those of others. Mr. Main rarely missed the meetings of the American Pharmaceutical Association, was a valuable counsellor and will be missed not only as a friend but also as one of the most valuable members of the American Pharmaceutical Association.

E. G. E.

A. PH. A. MOBILIZATION.

The hum of preparedness is to be heard in Indianapolis pharmaceutical circles. Plans for the American Pharmaceutical Association Convention August 27th to September 1st are well under way. The camp site has been selected; the committees are consuming extra cigars over the luncheon coffee cups, and affairs are taking shape.

Indianapolis is essentially a convention city. Its hotels are plentiful, comfortable, hospitable. Next August, if the committees' hopes are realized, a record-breaking attendance will hear the fall of the president's gavel at the opening session on the 27th.

The pharmacist is a public service man. The better the public is served the greater is progress served. The public servant has need of enthusiasm and loyalty. He must be ready to "do his bit" in advance of the demand of progress; he must be prepared in mind and heart for action and accomplishment. The parent pharmaceutical association offers potent possibilities for progress.

Will the war scare affect the attendance? Not much! If ever there was a time when concerted action on the part of the thinking men of the drug world is necessary, now is the time.

The Indianapolis convention spells opportunity, but it must be met from the front and not from the rear. This year's pharmacy problems are greater than ever before. It is the time for mobilization of forces, the renewal of pledges of coöperation and fellowship by which the tools of accomplishment are sharpened.

It is not too early to plan to come to Indianapolis next August. "No Mean City" extends a cordial welcome, her gates are always open. The thing to do is to begin right now to plan to attend the American Pharmaceutical Convention at Indianapolis next August. Further details will be announced later. Watch for them.

THE LOCAL COMMITTEE.

EDITORIAL

E. G. EBERLE, Editor

253 Bourse Bldg., PHILADELPHIA

THE PHARMACIST AND THE WAR.

THE probable effects of the war on the pharmacist are so manifold and so far-reaching that it would be difficult to summarize them within the brief limits imposed on an editorial review. The subject is treated at some length in a special article by Caswell A. Mayo, which appears elsewhere in this issue. As Mr. Mayo points out, every individual in the United States will be affected in some way by our entry into the war, and almost every industry and every calling will bear its own special burden. In many of the industries, however, the artificial stimulus imparted by war will bring with it largely increased profits. The pharmacists have little prospect of reaping any compensating profit, but are assured of increased burdens of taxation.

The question of whether or not the war tax known as Schedule B during the Spanish War will be re-enacted remains to be determined. It seems highly probable, however, that some special form of stamp tax will be imposed on proprietary articles of all sorts, including medicines, cosmetics and perfumery. At a recent meeting of the New York Pharmaceutical Conference a resolution was adopted requesting that if such a tax is imposed it will be imposed in cents and multiples thereof and not in fractions of a cent. This resolution was adopted with a view to the possibility of passing on the tax to the consumer, as is done quite successfully in Canada, and as formerly with the stamp tax on express receipts and on telephone messages in the United States. Indeed, wherever stamp taxes are in force they are almost uniformly paid by the ultimate consumer and not by the manufacturer or dealer. This is as it should be, for taxation should always be distributed as nearly as possible over the entire community on the theory that the entire community benefits by the expenditure of the money so obtained.

The teachers in pharmacy will be much interested in the lines of activity proposed by Dean Wulling for the College of Pharmacy of the University of Minnesota and referred to in Mr. Mayo's article. It might be well if the American Conference of Pharmaceutical Faculties would canvass this question with its constituents and be able to lay before the Government some concrete suggestions as to the best method of making use of the facilities and personnel of the colleges of pharmacy of the United States.

Relative to the recognition of pharmacy and pharmacists by the Government in the present crisis, and thereafter, in the Army and Navy, a letter of President F. J. Wulling, of the American Pharmaceutical Association to the Secretary of War, is largely drawn upon for editorial comment.

Pharmacy has no adequate representation in the Army and Navy and no representation has been accorded it on the Council for National Defense. Medicine is strongly represented. Medicine is not pharmacy, nor does it include pharmacy as evidenced by the existence of the separate pharmaceutical profession. National defense without adequate pharmaceutical representation and recognition can never be as effective as it can be with pharmaceutical participation under proper standard of recognition. Medical men are not pharmacists, neither do they claim to be. They cannot any more give expert pharmaceutical service than pharmacists can give medical or surgical service. In the failure to recognize and employ the expert pharmaceutical services available, the country falls short in that degree. It is fallacious to claim that pharmaceutical service in war or peace is negligible or of so low a grade that it shall be a handmaiden to any other division of the service.

The Council for National Defense has appointed a committee, of which the Secretary of War is chairman, to effect, among other things, a practical standardization of pharmaceutical supplies. Who is as competent as a highly trained expert pharmacist to direct this standardization and other purely pharmaceutical activities? Unless this kind of work is under the direction or responsible participation of such a pharmacist, the country is deprived of the best kind of service in this field and yet it is entitled to the very best that the country affords.

There are probably in excess of 500,000 persons engaged in pharmaceutical activities, and their good-will is advantageous; though this would not be withheld, it is reasonable to assume that proper and deserved recognition would stimulate and augment their help and loyal support.

The United States has not a pharmaceutical corps for the control and direction of medical and pharmaceutical supplies service such as all other great countries except Great Britain and Russia, have. In each of these large countries a corps of highly trained pharmacists with commissioned rank has the medical and pharmaceutical supplies service in its hands. The head of the service in Germany is of the rank of Colonel; in Japan, of the rank of Lieutenant-Colonel; in Italy and France, of the rank of Major-General. These officers are experienced and practical pharmacists of high attainments and qualifications, capable of directing their respective service. Our own country contains many such men who are at least as capable, if not more so, for this kind of service as a surgeon could possibly be. That American pharmacy is not represented in the country's service in the form of a pharmaceutical corps composed of men equal in rank to those in the medical service is undoubtedly due to the fact that American pharmacy has not exerted that pressure for this merited recognition and opportunity to serve under its own responsibility and standard that it is capable of, and now that there is opportunity for rendition of valuable service American pharmacy should receive some

recognition, commensurate not only with its possibilities, but with its services in the past.

If the post of Chief Medical Purveyor is not already in existence, it ought to be created and put in charge of an expert, qualified pharmacist with administrative ability. Such a one should be clothed with ample authority and should be of the rank not lower than that of Colonel. The importance of the medical and pharmaceutical supplies service can hardly be exaggerated. Our late war with Spain demonstrated the utter inadequacy and futility of methods then in use for the purchase, manufacture and distribution of pharmaceutical and medical supplies.

Pharmacists everywhere, individually and collectively, should use their influence with the Secretaries of War and Navy, their Congressmen and Senators, in gaining recognition for pharmacy. While at this writing the method of prescription has not been decided upon, pharmacists should serve in capacities for which they are fitted by training, experience and education. E. G. E.

THE JOURNAL AS THE POINT OF CONTACT.

THE scope of the American Pharmaceutical Association, including as it does those who are interested in every branch of pharmacy, and therefore bringing within its membership retail pharmacists, wholesalers, manufacturers, chemists and teachers, is of great advantage to pharmacy, in providing a forum where these various interests may discuss, without prejudice, their common problems. This same broadness of scope is also a source of weakness in that the Association's efforts are spread over so large a field.

These considerations are brought to mind in connection with the criticisms that have been made from time to time regarding the JOURNAL, and, while not desiring to offer an apology for the JOURNAL, as in my opinion it needs none, yet there is something to be said in reply to these strictures. It seems trite to observe that every member of the Association should find something in every number of the JOURNAL which will appeal to him as well worth while, but *no* member should expect every article in the JOURNAL to touch his special interests. The criticism that has been made by a few that "the JOURNAL contains very little that I can use in my business" is not borne out by fact, for a great many articles of real practical value have appeared in the JOURNAL from time to time, and such contributions are certain to appear regularly in the future; but even if this accusation were true, it evinces a narrowness of view-point that no thoughtful pharmacist should tolerate.

In one of his essays, Stevenson wittily says: "Perpetual devotion to what a man calls his business is only to be sustained by perpetual neglect of many other things and it is not by any means certain that a man's business is the most important thing he has to do." While admitting the urgency of provision for the

daily needs of life as a limitation of this altruistic doctrine, yet it is certainly the duty of every pharmacist to keep in touch with the phases of the development of his profession even where these lie considerably outside of his own immediate interests.

No better opportunity for contact with pharmaceutical activities and to aid in promoting what is best in pharmacy is offered to American pharmacists than that provided by membership in the American Pharmaceutical Association and a careful reading of its JOURNAL. That the JOURNAL can be improved upon no one doubts. It has developed from a small beginning, for the Bulletin was practically no more than a commentary upon the Proceedings and a means of keeping the officers and committees in touch with the business of the Association.

A retrospect of the JOURNAL for the past four years will satisfy any fair-minded person that an evolution is going on which is to the advantage of pharmacy and the Association. The affairs of the Association are now presented in a more concise manner though there is probably still room for improvement in regard to the reports of the convention and the sessions of the sections. Briefer and more condensed reports with important actions featured would better accord with the style of modern journalism. A limit on the length of contributions, to be exceeded only when these are of unusual value or interest, has been proposed and favorably considered. A selection from among the papers presented, such as would afford as great a variety as possible would be desirable. But notwithstanding the difficulty of maintaining a hold upon so wide a field, as the Association now endeavors to cover, the promise for pharmacy is so great that the effort is well worth while. It would be most unfortunate for the future of the profession if this fine note of idealism—of altruism—so evident in the activities of the American Pharmaceutical Association, were lost.

W. B. DAY.

THE AMERICAN PHARMACY FAIRCHILD SCHOLARSHIP.

THE work of the Committee on the American Fairchild Scholarship has sufficiently progressed so that the award will become available this year for a prospective student, contemplating a course of study in one of the schools belonging to the American Conference of Pharmaceutical Faculties. The value of the scholarship is \$300.00.

The examinations are to be held in the schools of pharmacy having matriculants who desire to compete for the scholarship. The questions for this competitive examination will be prepared by a joint committee of the American Conference of Pharmaceutical Faculties and the National Association of Boards of Pharmacy. The dean of the college, or representative, and a state board of pharmacy member will supervise the examination. The examination papers of the candidates will be numbered, or some other identification mark placed thereon, and submitted to the Joint Committee on Examination Questions who will grade

them and then send them to the Editor of the JOURNAL OF THE A. PH. A. The latter will report to the Committee on the Fairchild Scholarship and they will make the award. The relative value placed on the examination will be as 70 against 30 on the credentials submitted. The candidate must be a graduate of a four-year high school course and have had two years of drug store experience. These credentials must be submitted by the deans of the colleges to the Editor of the JOURNAL. Pharmacists, who have apprentices contemplating a course in pharmacy, and who can meet the preliminary requirements, should advise them to matriculate and inform the dean of the school that they intend to compete for the Fairchild Scholarship. It has been decided to hold these examinations June 25th.

The first year's work of the Committee will in a degree be experimental, necessitating perhaps a change in some of the details of the award in succeeding years. The examinations for 1917 in chemistry will be confined to questions relating to the preparation and properties of the elementary gases, hydrogen, oxygen, chlorine and nitrogen, and their best known compounds; to the mineral acids of the U. S. Pharmacopoeia; and elementary questions will be asked on the fundamental principles of chemistry.

The questions relating to materia medica will be confined to the animal and vegetable drugs of the U. S. Pharmacopoeia. Candidates will be expected to know the scientific names of animals or plants yielding such drugs, their natural orders, habitats, and the parts used in medicine. The questions will, as far as possible, be confined to drugs which apprentices and assistants are accustomed to handle frequently, so as to bring out the knowledge acquired by their observations.

In practical pharmacy and prescription reading, candidates will be asked questions relative to the preparation of the diluted acids of the U. S. Pharmacopoeia, fluidextracts, syrups, decoctions, infusions, liniments, ointments, pills and suppositories. They will be expected to know something of the methods by which the soluble or active constituents of drugs are extracted by means of official menstrua, as in preparing fluidextracts and tinctures. Candidates will be expected to translate the Latin of prescriptions into English, and to be familiar with both the apothecaries' and metric systems of weights and measures. Candidates will be expected to know the special conditions under which certain articles kept by druggists can be sold, but the questions will not involve further knowledge of the laws than is usually imparted by employers to their apprentices or assistants. They will be expected to have an elementary knowledge of general business principles as applied to the retail drug trade.

In donating this annual scholarship, Mr. Fairchild has exhibited his attachment for pharmacy, and the act is worthy of emulation in a similar or related way by others. The students to whom the scholarship is awarded will doubtless reflect credit on pharmacy as the years go by, and their accomplishments will be a source of gratification to the donor.

E. G. E.

WAR AND THE PHARMACIST.

BY CASWELL A. MAYO, PH.M.

Again we have embarked on the great adventure. After years of peace and prosperity we have taken up the dreadful task of war. Since our skirmish with Spain the word war has taken on a wholly new and horrid significance. All its pomp and circumstance, all its grandeur and its glory, all its glamour and its romance, have vanished. As we see it now close up, divested of its trappings and its regalia, it is a frightful and a sordid thing. It is a thing of manual toil, of mud and filth, of hunger and thirst, of horrible suffering and anguish, of degradation and of death. Money and machinery are its prime requisites. The neighing charger has given way to the caterpillar tractor; the telephone and the range finder have taken the place of the lance and the spear; chlorine and liquid flame have been substituted for the cavalry charge, and the chemist has supplanted the *beau sabreur*. The Iron Cross is won by the stoop-shouldered, bespectacled savant in his studio, not by the dashing young giant at the front. But there are those of us who hope that when this war comes to a close the world will have been purged of imperialism, that democracy will rule in the East as it does in the West, and that there will be no more wars. If, indeed, that hope finds fruition the sacrifices we may be called upon to make will not have been in vain.

THE EFFECT ON THE PHARMACIST HIMSELF.

The war will affect the pharmacist personally in so far as he or the members of his family are liable to service. It will affect him professionally in so far as he can render professional service to his country, and it will affect him financially in his liability to increased taxation, special as well as general.

The personal relation of the pharmacist to war depends upon his age, his physical fitness for military service and his educational attainments. The war department has no use for the highly trained pharmaceutical chemist. A few men of this type may be engaged as civilian employees in the medical supply depots, but will receive no official recognition or standing in the service. The medical supply service is administered exclusively by doctors for doctors, consequently the university graduate in pharmacy who wishes to serve his country in some capacity in which his education will be of the greatest value both to himself and to the United States will find in the officers' reserve corps the best opportunity to be of service.

The war department has urged all young men of collegiate education who wish to serve their country to apply for entry into the officers' reserve corps, where, if accepted, they will be given three months' training in camps, fourteen camps having been dedicated to this service. The Adjutant General has announced that the officers in training will not be paid any salary. This announcement has been received with a vigorous protest from every quarter. Such a policy would mean that only young men of means could afford to become officers and such a policy would tend to build up a military aristocracy in contravention of the basic democratic principles on which our government and our army are organized.

Undoubtedly the public clamor against this action of the Adjutant General will be heeded and the young officers in training be paid, as they should be.

The pharmacist who is not a college graduate will find in the Navy the best outlet for his patriotism and the best opportunity to make use of his knowledge of pharmacy, for there pharmacy is at least not a bar to promotion as it is in the Army. The young man who enters the pharmaceutical corps of the Navy may eventually become a warrant officer, whereas the pharmacist joining the medical department of the Army can never rise above the rank of Sergeant no matter how great his attainments, how valuable his services, nor how long he has served. In no other department is promotion from the ranks barred. For this reason we advise the ambitious young pharmacist to enlist in the line rather than in the medical corps. In the line he may become an officer, in the medical department he can never become one.

NO PHARMACEUTICAL SERVICE IN THE ARMY.

It is most unfortunate for the United States and for its soldiers that the government has adopted, and persists in maintaining, the policy of excluding pharmaceutical chemists from consideration in the organization of its medical department. The self-satisfied doctors who control the policy of the medical department refuse to learn either by the experience of our own wars or by observation of the workings of the medical departments in the great continental armies. They take the ground that the doctor knows everything and can do everything connected with medicine better than any one else, and unless a pharmaceutical chemist has an M.D. attached to his name he is given no more consideration than any laborer or clerk and must enlist as a second-class private at the munificent wage of \$15.00 a month.

Several of the leading manufacturers have been called to Washington to consult with the Council for National Defense and have been organized as a Committee on Standardization of Medical and Surgical Supplies. This gives ground for hope that the medical department has at last decided to make use of the expert services so freely offered by the manufacturers. Since this was done large bids for medical supplies previously advertised by the medical department have been withdrawn. This is still further indication of a reform in the medical supply service and probably means that hereafter the orders placed by the government will take cognizance of trade usage. If this reform is accomplished much time and money will be saved in the purchase of medical and surgical supplies.

The teachers in pharmacy will find their classes depleted by the call to arms. War feeds on youth. Boys constitute the rank and file of the army. The effect on classes will depend on the duration of the war. If only one draft of 500,000 men is made the effect will not be serious. If this is followed by additional drafts there will be a material depletion of the classes. If, however, as seems probable the minimum age limit is raised to twenty-one the classes will not suffer so much.

EFFECT ON THE SCHOOLS.

Just what service the schools of pharmacy can render is indicated by Dean Wulling in a recent report to the president of the University of Minnesota to the effect that the School of Pharmacy could undertake the manufacture in bulk of pharmaceutical preparations, the testing of supplies, the examination of food,

the cultivation of medicinal vegetable drugs on a larger scale than is now carried on, and the direction and supervision of the collection of vegetable drugs now growing wild in the State of Minnesota. Similar services could be rendered, and no doubt would be rendered by every college of pharmacy if called upon.

THE FINANCIAL BURDEN.

As a citizen and taxpayer the pharmacist will be called upon to share the increased burden of taxation involved in the issuance of seven billion dollars of bonds. This means that every man, woman and child in the United States has been saddled with an additional debt of \$74.00. This debt will begin to draw interest as the bonds are issued, and a portion of it will no doubt be handed on to our heirs. This burden no person can escape, though the tax may be collected in such a roundabout manner that the individual taxpayer will not realize the fact that he is paying it.

As a retail druggist the pharmacist will surely be called upon to pay a special burden of taxation. An increase of \$2 a gallon in the tax on alcohol is suggested and will undoubtedly be imposed. While efforts will be made to exempt alcohol destined for use in medicinal preparations from the imposition of this tax, these efforts are doomed to failure. A Congress which is dealing in billions will not consider such trifling exemptions as this.

The retail druggist and the manufacturer of proprietary remedies will also be confronted by a proprietary stamp tax. The authorities talk of a proprietary stamp tax covering medicines, toilet goods and perfumery and it has been proposed to re-enact Schedule B of the Spanish war tax. Here again protest seems destined to failure, though a vigorous campaign of protest has been inaugurated by the proprietors, the wholesale dealers, and a considerable portion of the retail drug trade. If in spite of these protests a stamp tax is imposed on proprietary preparations of all sorts, it would be wise for the drug trade to ask that this tax be imposed in such a way that it will be passed on to the consumer. This has been done in Canada and under the impetus of aroused patriotism the public seems to have paid the tax with but little protest. In view of the fact that the increased tax on alcohol used in medicine will virtually fall on the shoulders of the drug trade, there is ample justification for efforts on the part of the drug trade to pass on the proprietary stamp tax to the public. Indeed the principle of stamp taxation contemplates the widest possible distribution of the burden.

The proposal to lower the limit of exemption of income subject to tax will also affect many pharmacists. The present limit of \$3000 for single men and \$4000 for heads of families probably eliminates from the tax the large majority of retail druggists of the country. If this limit is lowered to \$2000, probably a majority of those hitherto untaxed will be affected, though there are no reliable statistics available as to the average net income of the retail drug trade.

No matter in what field the pharmacist may be engaged he cannot escape the effects of the war. He must either serve in the ranks, must pay additional taxes if engaged in business, must have fewer pupils if a teacher, and must in all cases pay the higher cost of living. If this war brings democracy to Europe and puts an end for all time to imperialism and to war, the sacrifices we shall be called on to make will be made most willingly.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

HEXAMETHYLENAMINA.*

BY E. V. HOWELL AND E. V. KEYSER.

Hexamethylenamina U. S. P., known commercially as Urotropin, Formin, Cystogen, Aminoform, Oritone, and probably other trade names, occurs as colorless, lustrous, odorless crystals or in the form of white compressed tablets.

It is soluble in about 1.5 parts of water, 10 parts of alcohol, and 288 parts of ether at 25° C. (77° F.). When heated to 263° C. (505.4° F.) it sublimes without melting and with partial decomposition.

Hexamethylenetetramine, $(\text{CH}_2)_6\text{N}_4$, is a condensation product obtained by the action of ammonia on formaldehyde.

It is made by passing a current of dry ammonia gas over warm trioxymethylene (Paraformaldehyde) and purifying the product.

There are several compounds of hexamethylenetetramine:

Hexamethylenetetramine salicylate; hexamethylenetetramine bromethylate, known as Bromalin, Bromoform, Bromethylformin; hexamethylenetetramine tannin, known as Tannopin, Tannon; hexamethylenetetramine iodoform, known as Iodoformin; Ferrostyptin, a double salt of hexamethylenetetramine hydrochloride and ferric chloride.

The fact that Hexamethylenamine has been sold under various names led some to believe that ill effects of the drug came from inferior products. Such reports led Daniel Base¹ to analyze the products appearing under the trade names of Urotropin, Formin, Cystogen, Aminoform, and also various samples of the official Hexamethylenamine.

He used the tests described by Alfred Wohlk, as follows: Hexamethylenamine heated with Nessler's reagent should show no signs of coloration.

Base in his experiment gets a slight pale yellow precipitate; according to Romizn this is a double salt of hexamethylenetetramine and potassium mercuric iodide.² The precipitate dissolves on heating, producing a pale yellow solution. All of these samples showed negative tests with Nessler's reagent.

Base also used the method of estimation of nitrogen as ammonia for establishing the purity of these compounds as follows:

Hexamethylenamine heated with sulphuric acid gives off formaldehyde, and nitrogen is liberated as free ammonia which unites with the acid. On titration with normal potassium hydroxide solution he found that 1 Gm. of pure hexamethylenamine was found equal to 28.74 Cc. of NH_4SO_4 .

All of these methods, he declares, while not exact, give the same results for all of the samples tested. He finds one form of hexamethylenamine as pure as another.

Puckner and Hilbert determined hexamethylenamine in galenical preparations

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

by decomposition of hexamethylenamine with an acid and estimating the free ammonia by titration.³

A. Brown and B. Fotto suggest an analysis of hexamethylenamine alone or in a galenical mixture by hydrolyzing hexamethylene and estimating the amount of free ammonia, or by the amount of formaldehyde given off.⁴

DECOMPOSITION OF FORMALDEHYDE.

Perhaps the first work done on the decomposition products and various influences under which hexamethylenamine is decomposed was done by two Japanese, Ischidzu and Inouyu. They report that acids readily decompose hexamethylenamine into formaldehyde, carbon dioxide and methylamine. Boiling water will readily decompose it, liberating formaldehyde. It is more stable in alkaline solutions than in neutral.⁵

Wohlk suggests the use of Nessler's reagent for the detection of ammonia, amides, and para-formaldehyde. He finds that on boiling with sodium hydroxide solution there is not a trace of nitrogen liberated as ammonia.⁶

In some recent investigation of the decomposition products of hexamethylenamine by Paul J. Hanzlik, M.D., and R. J. Collins, we find hexamethylenamine is decomposed only in acid medium, and the decomposition is wholly dependent on the hydrogen ions present. Concentration of the acid, and temperature, have much to do with the decomposition. In the presence of 0.2 percent HCl if kept at a temperature of 37.5° for one to five hours or on boiling it will liberate formaldehyde. They conclude that no formaldehyde is liberated in alkaline solutions. It does not liberate formaldehyde in body fluids unless truly acid, namely, gastric juice and urine.⁷

TESTS TO DISTINGUISH BETWEEN FORMALDEHYDE AND HEXAMETHYLENAMINE

The tests of the Pharmacopocia are not suitable for this purpose on account of the fact the reagents used will liberate formaldehyde as H_2SO_4 and $\text{C}_6\text{H}_5\text{OH} \cdot \text{COOH}$ tests. The silver ammonia iodide test is also unfit for testing for free formaldehyde in urine because of the precipitation of soluble salts of the urine by this reagent. Hanzlik and Collins recommend the following tests for distinguishing the presence of free formaldehyde in urine and body fluids:

Nitroprusside test: This test may be performed in cold or natural room temperature as follows:

To 5 to 10 Cc. of the solution to be tested contained in a test tube add three drops of phenylhydrazine, two drops of nitroprusside and three drops of alkali in the above mentioned order; if formaldehyde is present in an aqueous solution an emerald-green to a deep blue color is produced at the moment the alkali comes in contact with the solution. This color gradually diffuses through the liquid and almost at once begins to disappear. In highly dilute solutions of formaldehyde, there is finally formed an orange-yellow to a urine-red color. In urine containing formaldehyde the sequence of colors is as follows: as soon as the hydroxide is added a deep color is produced (generally, not always); this quickly changes to green then to yellow and finally to yellowish red. This test is directly applicable to all body fluids except bile and blood, owing to the color possessed by them.

Phloroglucin test for free formaldehyde: This can be performed in cold or natural room temperature and is as follows:

By the direct addition of about 0.5 Cc. of reagent to about 1 to 2 Cc. of the fluid to be tested; if the fluid contains formaldehyde, a deep, bright red color will appear instantly if the solution is concentrated; however, if of higher dilution it usually takes from one-half to one minute for the color to reach its intensity. The color persists for at least five minutes with dilute solutions. The test is applicable to all body fluids except bile and blood.⁸

"Nicolair in 1899 discovered the elimination of formaldehyde in the urine after an administration of hexamethylenamine. He observed it to have marked urolytic (uric acid solvent) properties. He found that after administration, uric acid and urate disappear. However, at this time, there was no clinical data.⁹

Since the discovery of formaldehyde in the urine, after the administration of hexamethylenamine, it has grown to be one of the largely used chemicals in medicine. For a long time the medical profession has sought some way of administering formaldehyde to obtain its antiseptic and disinfectant properties on the urinary tract. Owing to the irritating action of formaldehyde, which is said to be the equal of corrosive sublimate, this drug was but seldom given internally.

Dr. G. M. Belch, of Chicago, in a paper before the American Medical Society, says "hexamethylenamine is unsurpassed by other drugs as an antiseptic to the urinary tract. Its value can be estimated clinically as well as bacteriologically. Decomposed by uric acid, in the bladder, into ammonia and formaldehyde, it destroys the bacteria found in the urine in from one to two days. It is valuable as a disinfectant because it will not undo the effects of any local medication."¹⁰ H. Thursfield recommends hexamethylenamine in bacteriuria.¹¹ W. Coleman reports gastro-intestinal disturbance after administration of 1 Gm. of hexamethylenamine. He also reports other secondary effects.¹²

Frederick C. Shattuck reports having administered 7 to 10 grammes of hexamethylenamine in a case of typhoid twice daily two successive days of each week, until convalescence was complete, with no evil effects.¹³

THE LIBERATION OF FORMALDEHYDE FROM HEXAMETHYLENAMINE IN PATHOLOGICAL FLUIDS.

"These fluids were obtained from patients suffering with different clinical conditions. Usually about 60 grains of hexamethylenamine was given an hour before the fluid was obtained.

In urines of 12 persons suffering with chronic hemorrhagic nephritis, the average time of appearance of formaldehyde in the urine was about seventeen minutes. In all urine where the H^+ ion was concentrated, that is, the urine was truly acid, it gave tests for free formaldehyde and hexamethylenamine. In one case the urine was alkaline and only hexamethylenamine was present.

Other body fluids showed the presence of hexamethylenamine but no formaldehyde.

Ten specimens of bile from a patient who was ill with typhoid fever and had received hexamethylenamine for about four months was operated on for cholelithiasis, showed the presence of hexamethylenamine and typhus bacilli at the beginning and the end. Hexamethylenamine has no bactericidal action by itself and only acts as a bactericide in the presence of acids."¹⁴

HEXAMETHYLENAMINE IN THE SALIVA, BILE AND PANCREATIC JUICE.

On several tests made on dogs and human beings it is concluded that hexamethylenamine is secreted in the saliva. It has no bactericidal effect as there is no trace of formaldehyde present.¹⁵

S. J. Crowe finds that hexamethylenamine when administered by mouth is rapidly absorbed and remains in the circulating blood for twenty-four hours. Apparently the maximum concentration in the blood is reached from five to eight hours after administration. It is excreted in the bile, pancreatic juice, and directly through the wall of the gall-bladder, in dogs.

It was found to be present in saliva and milk of dogs after intravenous injection of 1 Gm. of the drug.¹⁶

Crowe merely suggested that it liberated formaldehyde in the above cases.

Flexner and Clarke¹⁷ and Hald¹⁸ have shown that no free formaldehyde is secreted in these situations.

G. Markman finds it a most efficient food preservative for milk and chopped meat. A 0.1 percent solution will preserve milk for several days and as little as 0.01 percent will keep it fresh for twelve hours; 0.01 to 0.02 percent will keep meat fresh for days.

Markman suggests the following for use as a preservative for meat; hexamethylenamine 100 parts, common salt 850 parts, potassium nitrate 15 parts, and sugar 35 parts.¹⁹

On the addition of 1 percent hexamethylenamine to four ounces of milk I find it to act as a preservative. The preservative properties of hexamethylenamine depend entirely on its ability to liberate formaldehyde. Lactic acid found in milk probably liberates formaldehyde which destroys the ferments present and stops fermentation for a time.

I find that hexamethylenamine in aqueous solution on the addition of sulphuric acid, on distillation, gives off formaldehyde, also when gently heated, or even in cold concentrated solutions it will give off formaldehyde.

On boiling an aqueous solution of hexamethylenamine formaldehyde is given off which can be recognized by its odor and its response to the silver iodide test. If a few drops of silver ammonium iodide T. S. be added to the solution, it produces a gray precipitate of metallic silver which forms a mirror on the sides of the test tube.

On boiling, heating, or in cold solution concentrated hydrochloric acid decomposes hexamethylenamine into formaldehyde and other products, probably ammonia and carbon dioxide or amines.

A 0.2 percent solution of hydrochloric acid added to a solution of hexamethylenamine and kept at a temperature of 52° C. for one hour gave the odor of formaldehyde which was confirmed by other tests.

Uric acid added to a solution of hexamethylenamine and heated to a temperature of 52° C. was decomposed and responded to tests for formaldehyde.

In four tests using 250 mg. of uric acid and 1 Gm. of hexamethylenamine in aqueous solution, the solution being kept in a water bath regulated to 53° C. for one hour and being agitated every ten minutes, the amount of uric acid dissolved under these conditions was scarcely noticeable. I conclude that the action of hexamethylenamine as a uric acid solvent is very slight. I have had no opportunity to observe its action as a urolytic agent under pathological conditions.

HEXAMETHYLENAMINE ON THE HEART.

The action of 1, 2, 3, 4, 5 and 10 percent solutions of hexamethylenamine was used in this experiment.

A frog of 25 Gm. weight was used and the action recorded. The experiments were as follows:

The frog was prepared by pithing, consisting of probing to prevent sensibility to pain and causing possible movement during experiment.

The frog was placed on a frog board and pinned down with the abdomen uppermost; the skin over the abdomen was pinched up and slit to the mouth; abdominal wall was then divided slightly to one side to prevent cutting the anterior abdominal veins. By a transverse cut the sternum was divided, the anterior junction of the abdominal vein of the heart being preserved. The pectoral girdle was next divided and pulled far apart. The heart was removed from the pericardium. A small hook was attached to the anterior end of the heart; this hook, by means of a thread, was connected to a heart lever. The heart lever was counterpoised so as to record the movements of the heart on a smoked drum. The results of this experiment, using solutions from 1 to 10 percent, are as follows:

Total amount of solution, 270 minims; total amount of hexamethylenamine, 10.6375 grains; total length of time during administration, $2\frac{1}{2}$ hours. At the end of this time the rate of heart-beat was 54; there was no perceptible change in the beat of the heart except every other diastole was slightly shortened.

I conclude that hexamethylenamine itself has no action on the heart. Its decomposition products may have marked action.

THE USE OF HEXAMETHYLENAMINE IN AQUEOUS SOLUTIONS ADMINISTERED HYPODERMICALLY AS AN ANAESTHETIC.

The experiment was made on a frog and the results were as follows: Five grains were injected in the abdomen of a frog; after 3 minutes 3 grains more were given; after 18 minutes there were no signs of anaesthesia. Eight grains were injected and at the end of 10 minutes there was no sign of anaesthesia, frog being sensitive to an electric stimulus. Coördination of the muscles was not as complete as in a normal frog.

One hour and nine minutes after the first injection ten grains more were given. Twelve minutes after the last injection there was internal hemorrhage in the lower portions of the body, frog had lost all coördination of the muscles but was still sensitive to touch.

After one hour and thirty minutes after last injection ten grains more were given. There was continued loss of coördination of muscles but no anaesthetic effect, frog remaining sensitive to electric stimulus until time of death.

HEXAMETHYLENAMINE INCREASES THE AMOUNT OF FREE AMMONIA IN THE URINE.

The method used in these experiments is as follows: Free ammonia (ammonia combined with free acids) (Folin's method). Place 25 Cc. of urine in a tall cylinder provided. To the urine add 10 Gm. NaCl to prevent oxidation, add a few Cc. of kerosene oil to prevent frothing and 1 Gm. Na_2CO_3 . Connect this cylinder with another cylinder containing 30 Cc. of $\frac{N}{10}$

H_2SO_4 and an equal amount of water. Connect the second cylinder to a suction pump and suck air through the two cylinders as rapidly as possible; continue the suction from four to five hours, the time necessary depending on the strength of the suction. At the close of the time disconnect the cylinder and titrate the acid solution with $\frac{N}{10}$ NaOH solution, using alizarine red as an indicator. Calculate the amount of ammonia N as follows: Subtract the amount of base used from the amount of acid solution. This is equal to the amount of acid neutralized by the

ammonia. The amount of acid neutralized multiplied by 0.0014 equals the amount of N calculated as free ammonia in 25 Cc. of urine. The total output in a day multiplied by the equivalent of 1 Cc. equals the amount of free ammonia in a day's output.

Four experiments by the above methods were made: Seven and one-half grains of hexamethylenamine were taken every two hours during the day, the urine for the day was collected and the amount of ammonia estimated. A total amount of hexamethylenamine taken during the day was 45 grains. The average of N calculated as free ammonia from the four experiments was 0.805 Gm.

The total output of urine varied from 1150 to 1500 Cc. per day. The urine remained acid to litmus during the whole time.

The urine voided during four days under normal conditions was tested for free ammonia stated in terms of nitrogen. The amount was 0.638 Gm. The total amount of normal urine during the day's output varied from 1100 to 1350 Cc. The increase in free ammonia in urine after taking hexamethylenamine was 0.167 Gm.

The variation of the ammonia in urine makes it difficult to get exact results of the increase in ammonia caused by the administration of hexamethylenamine, but from the above results it seems that the administration of hexamethylenamine does increase the amount of ammonia. There is a field for investigation along this line. If the ammonia is liberated only in the bladder it will cause a great increase of ammonia but if it is liberated before getting to the bladder, the ammonia will probably be eliminated as amines or urea.

It is true that hexamethylenamine has diuretic properties and also liberates formaldehyde in the urine, but the question arises whether formaldehyde is liberated before or after it reaches the bladder. From previous experiments we find that hexamethylenamine is readily decomposed in an acid medium and experiments have shown that as low as 0.2 percent of HCl will decompose hexamethylenamine into formaldehyde and other products.

Working on this theory we naturally suppose that hexamethylenamine is broken up in the stomach and formaldehyde is liberated. This being the case we know that the formaldehyde acting as a bactericidal agent will kill the ferments present in the stomach and impair if not totally destroy the action of pepsin on proteids and also the action of milk curdling ferment rennin.

The action of pepsin on egg albumen in the presence and absence of hexamethylenamine has been carried out by the following method: Pepsin, 0.1 Gm.; egg albumen, 10 Gm.; diluted hydrochloric acid and distilled water, of each a sufficient quantity. Mix 9 Cc. of dilute hydrochloric acid with 291 Cc. of distilled water and dissolve the pepsin in 150 Cc. of the acid solution. Immerse a hen's egg, which should be fresh, during fifteen minutes in boiling water; remove the pellicle and all of the yolk; rub the white coagulated albumen through a No. 40 sieve. Reject the first portion that passes through the sieve and place 10 Gm. of the succeeding portion in a wide mouth bottle of 100 Cc. capacity. Add 20 Cc. of the acid liquid and by means of a glass rod tipped with cork, completely disintegrate the albumen; then rinse the rod with 15 Cc. of the acid solution and add 5 Cc. of the pepsin solution. Cork the bottle securely and invert it three times; place in a water bath that has been previously regulated to 52°C . (125.6°F .). Keep it at this temperature for two and a half hours, agitating every ten minutes by inverting the bottle one time. Then remove from the water bath, add 50 Cc. distilled water, transfer the mixture to a narrow cylinder and allow it to stand for half an hour. The deposit of egg albumen should not then measure over 1 Cc. By this method the pepsin was first standardized and the amount of egg albumen deposited was less than 1 Cc.

Two assays were made under the same conditions, one containing $7\frac{1}{2}$ grains of hexamethylenamine, the other 15 grains. The amount of egg albumen deposited in each case was

approximately 10 Cc. There was no appreciable action of pepsin on egg albumen in the presence of hexamethylenamine.

The above experiment is calculated to give a mechanical representation of the conditions which exist in the normal stomach. This being true, we readily believe that hexamethylenamine is decomposed in the stomach and the action of the ferments present are absolutely retarded in its presence.

These conditions being true in physiological and pathological conditions of the stomach, long use of hexamethylenamine will result in gastro-intestinal troubles. Indigestion will naturally ensue and cause harmful action which cannot be overcome by its therapeutic value as an antiseptic to the urinary tract. Further investigation along this line should be conducted.

HEAT FROM HEXAMETHYLENAMINE.

Tablets of hexamethylenamine affords a very efficient way of obtaining heat for physicians at the bedside, for example, in dissolving hypodermic tablets. They are inexpensive and easy to carry. From the following experiment it can easily be seen that these tablets on burning afford sufficient heat for this purpose.

Hexamethylenamine tablets ignite on the application of a lighted match and burn with a practically smokeless flame. The following experiments were made: Hexamethylenamine tablets, $7\frac{1}{2}$ grains, were ignited in the open under a test tube containing 10 Cc. H_2SO_4 of sp. gr. 1.84.

RAISE OF TEMPERATURE.			
No. 1.		No. 2.	
1st minute.....	64.5° C.	1st minute.....	74.0° C.
2nd minute.....	68.5° C.	2nd minute.....	66.0° C.
3rd minute.....	24.0° C.	3rd minute.....	22.0° C.
25 seconds.....	1.5° C.	50 seconds.....	1.0° C.
Time of burning: 3 min. 25 sec..	..	Time of burning: 3 min. 50 sec..	..
<hr/>		<hr/>	
Total.....	158.5° C.	Total.....	163.0° C.
No. 3.		No. 4.	
1st minute.....	67.0° C.	1st minute.....	70.0° C.
2nd minute.....	72.0° C.	2nd minute.....	67.0° C.
3rd minute.....	29.0° C.	3rd minute.....	27.0° C.
58 seconds.....	2.5° C.	50 seconds.....	1.0° C.
Time of burning: 3 min. 58 sec..	..	Time of burning: 3 min. 50 sec..	..
<hr/>		<hr/>	
Total.....	170.5° C.	Total.....	165.0° C.

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SECTION ON COMMERCIAL INTERESTS, AMERICAN PHARMACEUTICAL ASSOCIATION

A COUPLE OF TIME-SAVERS FOR RETAIL DRUGGISTS.*

BY DAVID M. FLETCHER.

With the ever-changing prices of drugs and chemicals during the past two years it has been extremely difficult for the retail pharmacist to avoid losses in fixing and keeping track of the retail selling price of his wares, especially at the prescription case.

The large chain stores on the Coast provide their clerks with a scale of prices for various quantities at which drugs and chemicals shall be sold and constantly issue bulletins of price changes. The men in the prescription and drug departments are expected to note these changes in their price books and to change the prices on all containers in the stores. Every bottle, pot or can carries the sale price at retail in various quantities, and each clerk is thus in touch with these prices.

At the time of the breaking out of the European war, price changes came so quickly that the task of making the proper changes on the containers became quite a task and writing out all these prices and attaching to proper container was rather slow work. In order to expedite the work the writer devised the accompanying small labels, for the various subdivisions of quantities most frequently

ARTICLE		1 Oz.	
		2 Ozs.	
		4 Ozs.	
		8 Ozs.	
		1 Lb.	
PKG. NO.	DATE PURCHASED _____ FROM _____	1 DRAM	
	PRICE _____		2 DRAMS
	QUANTITY _____		$\frac{1}{2}$ Oz.
WHEN	HAVE BEEN USED	1 Oz.	
USED _____		1 Doz.	
		2 Doz.	
		$\frac{1}{100}$	
		$\frac{1}{800}$	
NEW SUPPLY ORDERED _____			

used,¹ had them printed on gummed paper and by their use speeded up the changes tenfold. As will be noticed one calls for the subdivisions of the ounce, another for those of the pound, and when necessary both can be used on a container when wishing to carry the prices through from dram to 1 pound; the third one is used

* Read before Section on Commercial Interests, A. Ph. A., Atlantic City Meeting, 1916.

on pill and tablet bottles; if desired, a fourth label for grains might come in handy at the prescription case, in pricing such articles as pilocarpine, homatropine, cocaine, etc. These labels have also proved very serviceable on bulk perfume bottles.

The proper pricing of prescriptions has been discussed frequently of late years and in many instances it has been shown that the retail druggist was actually dispensing his wares at a loss, or at so small a margin of profit as to be not worth while, that I offer the suggestion that by the use of the little labels here described, and the following of price changes, many of these leaks may be stopped.

Another labor-saving card that I have been using may be of interest to the druggist who desires to keep in touch with the quantity purchases he may be making, and who does not keep a stock book, the necessary clerical work being accomplished as the goods are handled in the stock-room. The various cards are returned to the office after the packages to which they were attached are emptied, and filed away. They will at any time afford all desired information as to quantity used in a given time, prices paid and sources of supply. These cards are attached to barrels of bulk chemicals, boxes of patents when bought in quantities, or to the edge of shelf in the stock-room, if more convenient. The druggist will find that at the end of a year he has a most valuable lot of information of what has gone in and out of his stock-room, at a minimum of overhead expense in keeping the record.

PARAFFIN-COVERED BANDAGES.*

The use of paraffined bandages has been suggested by Fisher.¹ He dips the bandages into melted paraffin, and applies this directly to the wound as a non-impregnable dressing. In principle, this is somewhat analogous to the paraffin films, although it differs in some essential respects.

Another use of paraffin in connection with bandaging occurred to me while working with the paraffin films, as reported in a previous paper: the painting of the surface of the finished dressing *in situ* with melted paraffin. The results were very promising. The bandage is stiffened so as to form a support, which in some cases may take the place of a splint, or even of a cast. It is weaker and somewhat more pliable, but very much lighter. It may also serve the purpose of fixing a bandage so that it does not slide on itself, and of protecting the surface of the bandage against moisture and dirt.

The bandage is prepared very simply by painting the outer layers of the ordinary bandage with melted paraffin. It is also feasible to paint the surface of the cotton directly, without application of any bandage. This, however, does not give as good a mold as the paraffin bandage.

The paraffin bandages can of course be easily removed by cutting them with scissors. Paraffin may also take the place of adhesive plaster, etc., for sealing the end of a bandage. The melted paraffin is simply painted over the edge after the bandage is in place. Another use is for painting the edge of the bandage where it is especially liable to become frayed or soiled, as at the wrist. A strip of melted paraffin may also be painted along one side of the bandage to keep the laps from sliding on each other.—Torald Sollman, M.D., Cleveland.

* From the Pharmacologic Laboratory of the Western Reserve University, School of Medicine. Reprinted from *Journal A. M. A.*

¹ Fisher, H. E.: "Non-adhering Surgical Gauze," *The Journal A. M. A.*, March 25, 1916, p. 939.

SECTION ON HISTORICAL PHARMACY, AMERICAN PHARMACEUTICAL ASSOCIATION

HISTORY OF PHARMACY IN NEW JERSEY IN THE EARLY SIXTIES BY AN APPRENTICE OF THOSE DAYS.*

BY L. E. SAYRE.

To learn what were the conditions and transactions in former times is regarded as worthy history. Not to know these we lack a certain form of experience. In the language of one of our famous Latin writers, "Without a knowledge of the past the world must remain in the infancy of knowledge."

The present contribution to the Historical Section has been suggested by the Chairman of this Division, otherwise the writer would have scarcely persuaded himself to undertake its writing. In doing so he wishes simply to offer his mite to the common fund of pharmaceutical narratives and portrayals of the vocation as seen through his eyes when an apprentice in the 60's. A fragment only of early personal observations and experiences may possibly add to the value of our historical depository and be interesting to those who may follow after us in line of beginners in pharmacy.

In Bridgeton, New Jersey, in the sixties, there was located what was considered one of the largest drug establishments of that time in that section. It was conducted and owned by the firm Robeson & Whitaker. The writer, directed by fortune or fate, was led into the employ of this firm as an apprentice. The building, in which this large business was conducted, consisted of three stories. The top story was occupied by a candy manufactory. Here was employed an expert in the confectionery art. His assistant was a drug apprentice. To this position the writer was first assigned. One may well ask what candy-making has to do with the vocation of pharmacy, apparently a very extraneous vocation. But one who had even an apprentice's experience in the art of manipulating sugar into various forms of confectionery and in that of preparing the various harmless coloring matters with which to decorate these sweet meats, can testify to its value to an apprentice in the druggist's vocation. The word itself, confectionery, is derived from the Latin word "*Conficere*" (to make up together), which is, after all, the basic principle of pharmacy, which is to compound. An apprentice who would make good in the third floor of this drug house was promoted to the second floor of the establishment, which might be designated as the bottling and packing department. From thence to the first floor or salesroom. Here on the second floor were bottled Godfrey's Cordial, Bateman's Drops, Turlington's Balsam, Laudanum, Paregoric, Number 6 and other domestic remedies in great quantities which were sold to the country trade. Large and commodious vehicles, known as the "Medicine Wagons" were packed every Monday morning for a week's trip, between four and five o'clock, and started on their way to visit the various towns between Bridgeton and Atlantic City, and Bridgeton and Cape May. These were sent out each week having a route for the distribution of these domestic remedies, con-

* Read before Section on Historical Pharmacy, A. Ph. A., Atlantic City meeting, 1916.

fectionery, cakes, ginger snaps, tobacco, cigars, etc., to the country merchants who kept these agents in stock.

In passing, permit your historian to call attention to the famous Number 6, one of the popular remedies of that time, of which *Tinctura Capsici Compositus* is a lineal descendant. I recall that we had in that city at that time a famous Thomsonian who had considerable practice and his Number 6 remedy was quite popular. It may not be out of place to here record (what interested me much in those days) something of a description of this now defunct practice and something of the author of it, whose history has almost faded away from current literature. By the Thomsonian system the human body is assumed to consist of four so-called elements, fire, air, earth and water. Metals and minerals, being ponderous and tending earthward, were supposed to drag down to the earth those who used them in medicines, while vegetables, springing from the ground, are fitting to make those who employ them as remedies to move upward to life and health. Thomson, who was born in 1769, was an uneducated man. He tells us that he went to school for only one month when he was ten years of age, but his writings were remarkable for their terseness, clearness and vigor of language. In 1805, when he was 36 years of age, he determined "to make a business of doctoring," so says his historian, and depend solely upon that natural gift of healing which he and his neighbors thought nature and nature's God had given him. We have many such so-called medical theorists to-day, unfortunately. Among other books, he published a work, *The New Guide to Health, or Botanic Family Physician, Containing a Complete System of Practice on a Plan Entirely New*, giving direction for preparing and administering his cures. One of his doctrines was to keep the stomach warm and empty and the skin sweating. He decreed that all serious diseases were caused by canker in the stomach, one degree causing measles, another scarlet fever, another small-pox, etc. If the inside of the stomach was "left cold," it must be warmed up by Number 2, or cayenne pepper, for cold was the cause of all disease and death while heat was the origin of all life and health. For the same reasons the skin should be kept hot and sweating by steam baths. If any one became nervous or was thrown into cramp convulsion-fits, Number 3, or nerve root, or skunk cabbage, was used. He even put his practice into rhymes, thus:

The Emetic, No. 1's designed
A general medicine for mankind
Of every country, clime or place,
Wide as the circle of our race.

In every case and state and stage,
Whatever malady may rage,
In male or female, young or old,
Half its value can't be told.

Let No. 2 be used bold,
To clear the stomach of the cold.
Next take the coffee No. 3,
And keep as warm as you can be.

When sweat enough, as we suppose,
In spirit wash and change your clothes.
Then get in bed, both clean and white
And sleep in comfort all the night.

Now take your bitters, etc.

He gave singular names to his medicines, so says his historian. Lobelia he called ram-cats; cayenne pepper, bulldogs; marsh rosemary and bay-berry bark, coffee.

It is to be noted that Samuel Hahnemann's system of medicine was regarded as the exact opposite of Thomson's as regards doses but not as regards principles, for he gave cayenne pepper, hot drops, lobelia and other violent irritants in fevers and inflammations.

Thomson lived in times of great epidemics of scarlet and typhoid fevers, diphtheria and cerebro-spinal meningitis. His book is crowded with cases of severe disease imperfectly reported but still of some historical if not of scientific value.

In 1812 he went to Washington to take out a patent for the use of lobelia in fevers, colics, dysenteries, etc. and for his steam-sweating. Dr. Thornton and the celebrated Dr. Samuel L. Mitchell were very patient with him, as were Drs. Rush and Barton in Philadelphia. He came back with some sort of a patent, and refused to treat any person who did not join his Friendly Medical Society, take out a family right to practice his system, and pay \$20 therefor.

The Thomsonian doctor made great impression on the writer, it is needless to say.

Historically, we are told, the pharmacist has a good right to be called a chemist. Looking back upon that period of a half century ago, as the writer sees it now, the pharmacists of that day in smaller towns were far behind in the qualifications requisite to claim such a title. The compounding required called for little or no knowledge of chemistry.

The writer recalls his duties in the bottling and compounding department in cutting up opium for maceration and extracting the numerous lead bullets which were returned to the wholesaler and thence to the source of supply for a recovery of claims. At odd moments he was pounding vigorously upon an iron mortar with the heavy pestle to bring to proper comminution some fibrous drug, or was grinding upon a CO₂ generator, mixing whiling with H₂SO₄, generating and forcing the gas into copper containers of water to make the soda water. He used to wonder how soda water could be made from common whiting and sulphuric acid. The proof was the fact that soda water *was* so made. It was a question whether even the proprietor or chief clerk could explain the simple reaction which takes place when the acid and alkaline ingredient of Seidlitz Powder were mixed with the proper vehicle. It was the consciousness of this prevailing ignorance of what was considered the essentials of the drug business that sent this apprentice to college much against the advice and prejudice of his employers and fellow clerks. Philadelphia, a wonderful city to a country boy, was regarded the Athens of the world and the Philadelphia College, in his imagination, was its

highest temple of pharmaceutical learning. It should be recognized, of course, that a mere apprentice could not make very trustworthy observations, but as the writer looks at it from his present standpoint, and from the standpoint of pharmacy, as he viewed it in those days in a small city of about five or six thousand, pharmacy has made quite appreciable advances. The average pharmacist is on a higher plane and the apprentice is much better provided for. The pharmacists of Bridgeton, New Jersey, I doubt not, all have *and use* the United States Pharmacopoeia and regard it, as they did not in those days, as an authoritative guide in the preparation of remedial agents. The Board of Pharmacy of New Jersey has honored for years my early associate, Henry A. Jorden, as one of its worthy members. The extraneous merchandise, such as toys, especially at Christmas time, have been displaced by more pharmaceutical-like commodities. As I look over the past fifty years I have vividly before me the impression that the ideal pharmacist cherished as an ideal the notion of operating a drug store in which only physicians' prescriptions were compounded, but every one knows how commercialism has crept into both pharmacy and medicine to prevent this—both are to blame. Another observation your historian has made: the pharmacist has seen fit, in battling with adverse conditions, to substitute for the harder, the more scanty, and more professional side of his vocation, such as microscopical analysis, food and drug analysis, sanitary analysis and even industrial analysis—has substituted these, following a line of least resistance, the various commercial ventures in many drugless sundries, such as every possible kind of extraneous merchandise. Each age has its own problems which men who live in must solve. The past in pharmacy has been more truly representative than the immediate present. Would it not pay us to consider this phase of the question seriously and march into the future in a resolute way determined to make pharmacy more professional and scientific?

A NEGLECTED LESSON.

At the close of the Civil War the need for a corps of pharmaceutical chemists in the medical supply department was set forth by no less an authority than Professor John M. Maisch. At the close of the Spanish War the Dodge Commission pointed out the blunders in the medical supply service as then organized. At the close of the present war there will no doubt be a commission to point out again the fact that our medical supply department might be better organized than it is now. But it will then be too late to profit by the experience of two wars and by that of England itself. The British Army is founded on caste. The British officers were drawn, at least at first, from the aristocracy and landed gentry. To suggest to one of these aristocrats that a "chemist," a mere tradesman, should be given a commission rank came near being sacrilege. We follow the British precedent. Caste-ridden Germany does not take this fallacious view, but does give commissions to pharmacists. Even the English colonies of Australia and Canada take a broader view of the situation and have accorded commissioned rank to pharmacists. If the pharmacists of the United States could bring their united pressure to bear upon our Government, we, too, would have commissions for our pharmacists.—Editorial Comment, *American Druggist*, April, 1917.

PAPERS READ BEFORE THE BRANCHES OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

CARREL-DAKIN SOLUTION.*

BY JOHN K. THUM.¹

It was while working on native black oxide of manganese, which chemical investigators before Scheele had studied more or less unsuccessfully, that he discovered in short order four new substances—chlorine, oxygen, manganese and baryta—and of these four, the first two have undoubtedly been of the utmost importance for the proper understanding of chemical processes. This happened in 1774. Scheele termed the first substance "oxymuriatic acid;" thirty-seven years later, Sir Humphry Davy classified the first of these substances as an element and gave it the name "chlorine." Although Gay-Lussac and Thénard were the first to suggest that from its behavior it might be regarded as an element, Davy proved it.

The practical value of this discovery and the important rôle that chlorine has played in the development of chemistry cannot be overestimated, and now that its value as a germicide has been proved and its practical application made possible by the researches of Carrel, the danger of death from infection has been wonderfully reduced. Knowledge of the disinfecting and germicidal action of chlorine is not by any means recent. Chlorine water has been recommended for years locally as a stimulant and disinfectant for wounds and ulcers. However, its irritating nature and the severe pain produced when applied to wounds has militated against its general use in surgical procedure. Some years ago it was discovered that very attenuated solutions of this gas were efficient for the sterilization of swimming pools, but its use for this purpose has been discarded for the copper sulphate treatment of the water. Like in everything else the personal equation plays a very important part in the handling of chlorine gas for the disinfection of a swimming pool; while one man would exercise great precaution and care in carrying out the technic for the treatment of the water, others would be rather lax in varying degrees, with the result that while the water would probably be thoroughly sterilized, it would also be exceedingly irritating and painful to the eyes. In the copper sulphate treatment of the water this condition is not so prone to occur.

It may be of interest to know that as early as 1846 the disinfecting properties of chlorine were proven by the successful employment of it in eradicating an epidemic of puerperal fever in Vienna. In this case bleaching powder was used.

Undoubtedly the ideal germicide for combating infection that occurs in most

Editor's Note.—The successful use of the Carrel-Dakin solution depends on the chlorine of course, but in combination, and in a nearly neutral solution.

The Eddystone horror afforded the opportunity in this country for applying the Carrel-Dakin treatment, and also that of the paraffin dressing for the burns in a large number of cases, and with gratifying success and relief to the unfortunates.

* Read at the meeting of the Philadelphia Branch of the American Pharmaceutical Association, April 10, 1917.

¹ Pharmacist at the German Hospital, Philadelphia, Pa.

wounds, is one that has the power of destroying not only bacteria but spores as well, and is only local in its action and, therefore, without danger to the host. It seems that the hypochlorites have this power. As a matter of fact they have been recognized by public health workers as the most potent germicides that we have, and yet their use in general surgery has been limited for reasons that are obvious. The various hypochlorite solutions are all more or less unstable as to chlorine content and, while they can be made more stable by making them more alkaline, this militates against their use on the tissues.

The first practical application of chlorine in surgical procedure for the eradication and control of infection was undertaken by British surgeons shortly after the beginning of the great war. They immediately recognized their helplessness when the large number of wounded began to arrive from the front with wounds of every description and all terribly infected. They worked with hypochlorous acid in one-half percent aqueous solution, made by adding 12.5 grammes of chlorinated lime and the same quantity of boric acid to a liter of distilled water and allowing the mixture to stand over night. This was then filtered and used as a surgical dressing. In the *British Medical Journal*, July 24, 1915, p. 129, they give their results; while these are good, other workers seem to have been unable to duplicate them.

In their experiments they failed to take into account the extreme variability of chlorinated lime and this may be the main reason why results have been unsatisfactory in different workers' hands.

Dakin's Solution then made its appearance. This is now referred to as Dakin's Original Solution. This solution is very easily made: 140 grammes of dried sodium carbonate are dissolved in 10 liters of water, and 200 grammes of chlorinated lime are added; the mixture is well shaken at intervals during one hour; the supernatant liquid is then siphoned off and filtered, preferably through paper. This solution is somewhat alkaline, but this alkalinity is modified by the addition of 40 grammes of boric acid. This preparation, however, did not prove altogether satisfactory. Sometimes it worked admirably and at other times not. There were times that patients complained that the solution was very irritating and painful, although the original technic followed in its manufacture was always scrupulously duplicated. Of course, the fault laid with the chlorinated lime. While the formula was always rigidly adhered to, the chlorinated lime seldom had the 25 percent chlorine content that was required to make a 0.5 percent solution. When one remembers that the different brands of chlorinated lime available in the open market vary considerably, and that even different packages of the same brand will run all the way from 25 to 35 percent in available chlorine content (at least that was the range found by us of packages put up in this country, and in Europe it must be greater, as the range of chlorine content of packages bought on the open market there run all the way from 20 to 37 percent) it is perfectly obvious as to why results should be so variable in different surgeons' hands.

Now Dr. Carrel's method for combating infection is simply a more or less continuous irrigation of the wounds with a modification of Dakin's solution, or, to be more exact, a modification of the well-known Labarrque's solution, officially known as *Liquor Sodae Chlorinatae*. This official solution of sodium hypochlorite contains 2.5 percent of available chlorine and is markedly alkaline. This makes

its use as a dressing for infected wounds prohibitive, it being exceedingly irritating and painful. Dilution of this solution with water to reduce it to 0.5 percent of available chlorine (the strength of the Carrel-Dakin solution) is impracticable, as it is still too alkaline. Such a diluted solution, first neutralized by the addition of boric acid, has been used but with very unsatisfactory results, it rapidly losing its chlorine, and proving otherwise objectionable.

Of course, making the preparation in this manner simplifies matters very much and also saves time, a factor of some importance where large quantities must always be available. It was Daufresne who pointed out the disadvantages of neutralization with boric acid, to which he attributed much of the irritation and painfulness, and the extreme variability of the chlorinated lime was also noted by the same observer.

Naturally, this illuminating fact put an entirely new aspect on the matter and brought forcibly to mind that estimation of the chlorine content of each new lot of chlorinated lime was absolutely essential before concordant results could follow.

Accordingly Daufresne evolved the following technic for making this preparation, and this only, and no other, should be used when Dakin's or Carrel-Dakin Solution is called for:

Chlorinated Lime (25 percent chlorine).....	184 Gm.
Sodium Carbonate, dried.....	92 Gm.
Sodium Bicarbonate.....	76 Gm.

Into a 12-liter bottle put the chlorinated lime and five liters of water and shake frequently during a period of six hours; dissolve the two sodium salts in five liters of water and after six hours add this solution to the mixture of chlorinated lime and water and shake well for several minutes. Allow to stand for at least half an hour until reaction is complete and then siphon off the supernatant liquor and filter through paper. The solution, undiluted, is then ready for use.

When the chlorine content of the chlorinated lime is above or below 25 percent, the proportions of the three ingredients entering into this solution must be increased or reduced accordingly. To avoid the necessary calculation that this entails, Daufresne has prepared the following table:

QUANTITIES OF INGREDIENTS FOR TEN LITERS OF DAKIN'S SOLUTION.

Titer of Chlorinated Lime.	Chlorinated Lime Gm.	Anhydrous Sodium Carbonate, Gm.	Sodium Bicarbonate. Gm.
20	230	115	96
21	220	110	92
22	210	105	88
23	200	100	84
24	192	96	80
25	184	92	76
26	177	89	72
27	170	85	70
28	164	82	68
29	159	80	66
30	154	77	64
31	148	74	62
32	144	72	60
33	140	70	59
34	135	68	57
35	132	66	55
36	128	64	53
37	124	62	52

It would be well to take the titer of this solution occasionally. The same substances used for determining the activity of the chlorine in the lime are used for this purpose.

To ten mls of the finished solution add 20 mls of 10 percent solution of potassium iodide and 2 mls of acetic or hydrochloric acid. Measure into this mixture, drop by drop, from a burette, a decinormal solution of sodium thiosulphate until decoloration is complete. The number of mls used multiplied by 0.03725 will give the weight of the sodium hypochlorite in 100 mls of the preparation.

In order to determine the alkalinity of the Carrel-Dakin solution or note its freedom from caustic sodium, add to 20 mls of the solution 0.2 of phenolphthalein; if correctly prepared no red coloration should appear.

Estimation of the amount of chlorine in the chlorinated lime is of the utmost importance and the method for doing this is simplicity itself. One may use the method given in the U. S. Pharmacopoeia, or the following, which is the one mentioned by Carrel in his note to the *Journal A. M. A.*, December 9, 1916, p. 1777, and which note is reprinted in the *American Journal of Pharmacy*, February, 1917, p. 84:

"Weigh out 20 grammes of the average sample, mix it as completely as possible with 1 liter of ordinary water and leave it in contact for a few hours, agitating it from time to time. Filter.

"Measure exactly with the gaged pipette 10 mls of the clear fluid; add to it 20 mls of a 1 : 10 solution of potassium iodide and 2 mls of acetic or hydrochloric acid. Drop a drop at a time into this mixture a decinormal solution of sodium thiosulphate until decoloration is complete.

"The number of mls of the thiosulphate solution required for complete decoloration, multiplied by 1.775, gives the weight of the active chlorine contained in 100 grammes of the chlorinated lime."

SOME EXPONENTS OF AMERICAN PHARMACY.*

BY JOHN F. PATTON.

The history of pharmacy, like that of any other branch of science, is a story of evolution. Embracing not only the compounding of medicine but a host of collateral branches allied to it, the history of each would make a tome of large proportion.

The development or progress of any branch of human endeavor must take into account the individual exponent, so that its history is but an amplified biography. It is always interesting as well as instructive to know something of the character of a person who has developed an industry, exploited some branch of the sciences, or invented a useful implement; hence, biography forms an important part of our libraries.

It is a well-known fact that those engaged in scientific pursuits develop a subtle condition of mind free from the weakness of selfishness, which is so inherent in human nature. Those of us who were acquainted with the subjects of the following sketches will bear testimony to the truth of the above statement.

* Abstract of a paper read before Section on Historical Pharmacy, A. Ph. A., Atlantic City meeting, 1916.

When we look back over the list of eminent men, whose work has added glory to American pharmacy, and note their lack of conscious superiority, their modesty, their willingness to work without desire of applause or hope of material reward, we can truthfully say, "These were great men."

Becoming a member of the American Pharmaceutical Association in 1880, my first attendance at the meetings of the Association was at Saratoga Springs, in the latter part of the summer of that year. At one of the sessions of that meeting, something happened that occurs occasionally in deliberative bodies; namely, a parliamentary tangle. This, with motions, resolutions, amendments, etc., the question before the house became quite obscured. No one seemed to know the next step to be taken, when a gentleman of marked personal appearance arose, and with a few words cleared the atmosphere, and pointed the way out of the difficulty. His comprehension of the situation and the clarity of his statement prompted an inquiry as to his identity. He was Dr. E. R. Squibb, of Brooklyn.

This man stands out prominently in the galaxy of eminent American pharmacists, whose mental equipment, and useful devotion to high ideals, challenges our highest admiration. Following the demoralization incident to the close of the Civil War, a host of small pharmaceutical manufacturers sprang into existence. Many of their products were of the poorest possible quality, disappointing to the physician, and useless to the patient. Just at this juncture, Doctor Squibb stepped on the stage, and at once raised the standard of quality in medicine. His influence is felt unto this day.

A loss to pharmacy and a grief to his friends, was the passing of Charles Rice. Eminent in ability, and most pleasing in personality, generous, just and modest, he was ever ready to serve, regardless of the work involved, or the sacrifice demanded. As a writer and speaker, his style was concise, lucid, and convincing. Having at his command a dozen languages, he was a "thesaurus" of pharmaceutical information. The work he did for American pharmacy, in laying the foundation for the revision of the Pharmacopoeia of 1880, and as chairman of the committee for the two subsequent revisions, was invaluable. He left his impress on that great work, and made it the peer, if not the superior, of any similar standard the world over. The sense of justice he exhibited, in his refusal to accept the rather generous honorarium tendered him for his work on the Pharmacopoeia, because he held it would not be fair to his associates, marks the freedom from selfishness that is characteristic of the scientific mind.

Another one of our great men was our beloved fellow member, John M. Maisch. "None knew him but to love him, None named him but to praise." Professor Maisch was a comparatively young man when he died, being only a little over three-score years of age. Equally large in body and mind, the work he did in nearly forty years of service, representing about five hundred contributions to pharmaceutical literature, tells the story of his busy life. The varied experiences of his early years in Germany fostered in him the growth of a love of liberty. His free and independent spirit rebelled against breathing the stifling air of repression, so he came to the "Land of the Free." America is great because we have been enriched by the lives of such men as John M. Maisch.

THE CHEMISTRY OF THE PHARMACOPOEIA.*

BY J. R. RIPPETOE.

Everyone must concede that the New Pharmacopoeia is a decided improvement over its predecessor, and everyone knows that the next one will be better still.

We are right in assuming that every point in the Pharmacopoeia is based upon facts or theories as they have been established. But in universal practice what one or a few have proven to their satisfaction does not always meet the requirements of the workshop. The ninth revision committee invited the coöperation of all interested and received much valuable assistance. This assistance will continue unofficially or indirectly at such meetings like this¹ until the next revision is taken up. This leads me to suggest that there should be created continuous committees to carry on coöperative work, as is done by the Official Association of Agricultural Chemists. This association through appointed referees invites members and non-members to coöperate in trying out methods of analysis upon standard samples for the purpose of determining the practicability of the methods before making them official. It is not necessary for me to point out the advantages of such work.

Taking the substances of the Pharmacopoeia in alphabetical order, I beg to make the following comments:

Aspidosperma.—An alkaloidal standard should be established for this drug and its fluidextract. A good quality of drug should contain at least 1 percent chloroform soluble alkaloids when assayed by the method for Cinchona. Two samples assayed recently were found to contain 0.14 and 0.34 percent chloroform-soluble alkaloids, respectively.

Aconitum.—Our experience has been that methyl red indicator gives a better end-point but somewhat lower result than cochineal indicator.

Balsamum Peruvianum.—The assay for cinnamein directs that the residue be dried to constant weight at 100° C. This cannot be done since its boiling point is between 225 and 235° C. The ether should be allowed to evaporate at room temperature or gentle heat and the residue dried in a vacuum desiccator over sulphuric acid. Complete extraction of the cinnamein is preferred to decanting an aliquot of an ethereal solution especially in the hot summer months.

Cannabis.—The requirement, "yield of alcoholic extractive is not less than 8 percent," is too low. A good quality of drug will assay at least 12 percent.

Colocynthis.—The pulp is always found to contain more than 8 percent¹ ash, which would seem to be advisable as a requirement, that is, should yield not less than 8 nor more than 15 percent ash.

Colchicum Corm.—The assay method is very good for the seed but with the Corm incomplete removal of starch gives obstinate emulsions in the subsequent chloroform extraction. Using 10 Gm. of the drug instead of 15, retaining the volume of the liquids as now given and finally using 150 mls of the filtrate representing 5 Gm. of the drug, very good results are obtained.

* Read before New York Branch, A. Ph. A., March 12, 1917.

¹ Rippetoe, *Amer. Jour. Pharm.*, May 1912, p. 197.

Extractum Taraxaci is directed to be made with 125 mls of alcohol and 875 mls of water while the fluidextract is made with diluted alcohol equivalent and glycerin. The reason for the different strength menstruums is not obvious.

Fluidextractum.—The abbreviation "Fldext." is awkward to write and not pleasing to the eye. "Flect." is much better.

Fluidextractum Cascarae Sagradae Aromaticum.—This preparation still remains one of the museum specimens. It is no doubt a fair estimate to say that for every 1000 gallons used not more than one is made according to the official formula. Glycerin has no value as a solvent and as a sweetening agent sugar is better and much cheaper. The flavor is not familiar to the public.

Fluidextractum Ipecacuanhae should yield "not less than 1.8 Gm. nor more than 2.2 Gm. of the ether-soluble alkaloids of ipecac." The drug from which it is directed to be made should yield "not less than 1.75 percent of the ether-soluble alkaloids of ipecac." To be consistent and permit of practical working the alkaloidal content of the fluidextract should be not less than 1.50 Gm. nor more than 1.75 Gm.

Hydrochloric acid is used in the menstruum and then in preparing the syrup from the fluidextract acetic acid is added. Is the additional acid necessary? If so the same acid should be used in both.

Fluidextractum Sennae.—Two varieties of drug are recognized but the Alexandria only is directed to be used in preparing the fluidextract, syrup and syrup of sarsaparilla compound, while both varieties are permitted to be used in the compound infusion and compound glycyrrhiza powder. Both varieties should be permitted for all purposes. Is there any method for determining whether one or the other variety has been used?

Methylis Salicylas.—A simple test, possibly not proper material for the Pharmacopoeia, but useful nevertheless for distinguishing the synthetic methyl salicylate from the oils of gaultheria and sweet birch is the froth resulting from agitation. Any froth produced by shaking immediately disappears on methyl salicylate, while on the oils of gaultheria and sweet birch it will remain for quite a few seconds.

Oleum Olivae.—A limit of free acid in this oil is very desirable.

Myrrh.—"Not less than 35 percent of myrrh is soluble in alcohol." This requirement is very indefinite as no method is given. As to extractive soluble in alcohol 25 percent is about the average yield in our experience.

Pulvis Glycyrrhizae Compositus should have an ash standard.

Resina Jalapae.—The methods for determining chloroform and ether-soluble matter are lacking in details. We are directed to "Add 1 Gm. of the powdered resin to 10 mls of chloroform (or ether) in a stoppered flask and shake the mixture occasionally during one hour. Then filter, evaporate the filtrate, etc." The operator is left in doubt as to washing, size of filter to use or any precautions to be observed.

Sapo.—The alcohol used for alkalinity determination should be directed to be previously neutralized. Separating the fatty acids for determining their iodine number by the method outlined is a very tedious process. Acidifying the aqueous solution, extracting with ether, washing the ether solution with water and evaporating at a low heat is much more expedient and practical. The acids may be

dried in a vacuum desiccator or over sulphuric acid and weighed before determining the iodine number.

Sapo Mollis.—Determination of the fatty acids and their iodine number are desirable for this preparation.

Sodii Phosphas Effervescens.—There should be a test for sugar and assay methods for the sodium phosphate and sodium bicarbonate. This comment applies to other official effervescent salts.

Spiritus Aetheris Nitrosi.—This preparation is directed to be preserved in "well-stoppered" bottles. Cork stoppered should be directed. Many druggists no doubt think that a glass stoppered bottle is "well stoppered" but the ethyl nitrite evaporates very rapidly, escaping from a glass stoppered bottle.²

Tinctura Cinchonae Compositae.—The use of red cinchona of high assay diluted to standard in the finished preparation will produce a preparation of varying strength with reference to the bitter orange peel and serpentaria.

Unguentum Hydrargyri Ammoniaci.—An assay method for determining the ammoniated mercury content is desirable. Determining as the sulphide gives very good results.³

Unguentum Hydrargyri Oxidi Flavi.—Same remarks as above.

Zinci Acetas and Other Official Salts of Zinc.—The assay method is very faulty, due to the hot diluted nitric acid, on being added to the zinc sulphide, liberating sulphur which forms a gummy mass that holds some of the zinc and gives a low figure. Dissolving the sulphide in dilute hydrochloric acid and precipitating as the carbonate gives satisfactory results.

Zingiber.—Six varieties of ginger are recognized and fully described but only one, the Jamaica, is directed to be used in preparing the several preparations, excepting the oleoresin. Is there a chemical difference that eliminates the other five varieties, although they must meet the same requirements as to percentage of extractive?

I am indebted to Mr. Nathan Smith for valuable suggestions in preparing these comments.

LABORATORY SCHIEFFELIN & CO.,
NEW YORK.

² Rippetoe, *American Druggist*, Dec. 1911, p. 307.

³ Rippetoe, *Am. Jour. Pharm.*, May 1910, p. 223.

COMMERCIAL TRAINING FOR PHARMACISTS.*

BY ROBERT P. FISCHELIS.

The need for commercially trained pharmacists is an acute one if the trend of the profession is accurately recorded in the pharmaceutical press and in pharmaceutical meetings. It is therefore no longer necessary for those advocating commercial training to apologize for usurping a place in the "pharmaceutical sun." On the contrary, many close students of the present-day pharmaceutical situation are beginning to wonder whether the time is not coming when those who have scientific papers to present before pharmaceutical associations will not in their turn open their remarks with an apology for taking up valuable time that might better be devoted to a discussion of business problems and financial profit possibilities.

What the whole situation requires is the acceptance of a common sense viewpoint on the part of teachers, retailers, students and others who are interested in the practice of pharmacy of to-day. I am not in sympathy with those who wish to displace a large portion of the present minimum pharmaceutical curriculum with business training any more than I am in sympathy with those who begrudge even the small period of time—about 60 hours—that the better schools of pharmacy are devoting to the subject.

There must be a willingness to give and take in this matter if pharmacy is to be served properly.

We all recognize what pharmacy is to-day and it is foolish to try to make ourselves believe that it is on a higher plane than actual conditions demonstrate.

Our colleges of pharmacy are attempting to elevate the profession of pharmacy to their high standards and practical men everywhere are trying to make the colleges recognize the fact that in order to really serve the profession the colleges should take cognizance of conditions in the trade and adapt their curriculum to the situation in such a manner as to turn out men who would be trained and valuable for the present-day drug store. That, in a nutshell, is the situation and thus far many of the colleges have responded by instituting short courses in commercial training—with emphasis on the short.

It is expecting too much of both student and instructor in commercial pharmacy to feel that just because a college gives a short course in commercial training its graduates should make good as business men. To be sure they are much better prepared for business life after having taken such a course than they are without having taken it, but the other learned professors on the pharmaceutical faculties must also help to make our 1917 graduates and those who follow them good assistants to the average retail druggist of to-day or good business men in their own stores.

Those who advocate discontinuing some of the scientific instruction given in the present pharmacy course and substituting more commercial training for the same are often asked what branch of the curriculum may be eliminated or curtailed. Invariably the first subjects mentioned are botany and pharmacognosy

* Presented at New York Branch, A. Ph. A., December meeting, 1916.

Yet a knowledge of the habitat and characteristics of vegetable drugs as well as climatic effects upon their growth, etc., is quite essential to the shrewd buyer. But how many teachers of botany and pharmacognosy ever handle the subject from this point of view? They are usually profound students of the subject and teach what custom dictates every educated pharmacist should know about these sciences and they usually teach it in a highly scientific way, regarding any commercial consideration of the subject as beneath their dignity.

It is necessary to remember that we are not, in this day and generation, teaching pharmacists who will go out and collect green drugs, dry and grind them and manufacture them into elegant preparations. We are teaching men who tomorrow will be in the thick of the fight for a living out of a business which has some professional trimmings but requires the ability to utilize these trimmings in a commercial way for success.

Chemistry is a big subject which requires four years of undergraduate study and some more post-graduate work in our universities before it is felt that the student or graduate knows enough to speak with authority on the subject. Yet we try to make our men master chemistry in two short years and crowd the work in at an enormous rate with the result that there is little time for absorption because it is all needed for cramming. Chemistry is invaluable to the pharmacy student but it should be handled from the view-point of the pharmacist. Our professors are victims of a system which does not recognize that the object of teaching chemistry in a pharmacy school is not to turn out chemists but to turn out good pharmacists, just as the object of teaching botany is not to develop botanists but better pharmacists.

The time has come when the traditions of the past must be shaken off for they have burdened us heavily for too long a time.

Commercial training must mean more than bookkeeping, accounting, selling and advertising in the future. It should be considered in connection with every subject in the curriculum and the men now teaching the various subjects at our colleges will find a keener interest in their work, on the part of students, if it is approached from the present-day retail druggists' standpoint. And further than this, the colleges will then be fulfilling their mission which is to provide trained men to meet the needs of the hour.

DEPARTMENT OF AGRICULTURE INVITES CRITICISM OF PROPOSED RULINGS ON STANDARDS FOR DRUGS

UNICORN ROOT.—Samples of true unicorn root, *Aletris farinosa*, obtainable in interstate trade, have been examined. As a result of this study it was found that excessive amounts of total ash and acid-insoluble ash (sand) were present. In a few instances the limit of 16 percent given in the new National Formulary was exceeded. The Bureau is of the opinion that material properly collected should contain not more than 10 percent of total ash and the amount of insoluble ash should be considerably below 5 percent. Of special interest is the fact that one sample which contained about 3 percent of true unicorn root consisted otherwise entirely of false unicorn root, *Chamaelirium luteum*. The Department will regard as adulterated or misbranded under the Food and Drugs Act any unicorn root containing total ash in excess of 16 percent or which contains material other than true unicorn root, *Aletris farinosa*.

PROGRESS MADE BY THE BUREAU OF CHEMISTRY IN THE ENFORCEMENT OF THE FOOD AND DRUGS ACT IN ITS RELATION TO PHARMACY.*

- BY C. L. ALSBERG, M.D.¹

The drug work at the Bureau falls under three groups:

- 1st. The enforcement of the Sherley Amendment, under the supervision of a surgeon of the Public Health Service.
- 2nd. The control of pharmaceuticals.
- 3rd. The control of crude drugs.

The methods employed for the control of crude drugs have changed materially during the past few years and the change has brought forth both praise and criticism. The work was formerly limited to the ports of entry and especially to New York, where it was under the supervision of Dr. Rusby. Little control was exercised from Washington. Dr. Rusby's work was admirable, but he could not do it all, and it was necessary to have in Washington, a corps of men, to coördinate the port work, and to act as advisors to the administrators of the law. The corps has been assembled gradually, and as the men have become proficient they have been sent to the field and port laboratories, and it is hoped that eventually every field laboratory will have a pharmacognocist.

Since the beginning of the war, conditions regarding imported drugs have been peculiar. After the middle of the first month of the war, no imported drugs were received. Then a month later conditions changed and drugs began to arrive from all over the world in large and small lots, and more work has been entailed in examining these products since the war started than before. The importers have had to adjust their business methods and establish connections with the dealers in Calcutta, Straits Settlements, Guiana and other remote points, instead of trading with middlemen in Antwerp, Amsterdam, England and Hamburg, as heretofore. The trade conditions have caused much confusion in the drug market. Importers are often obliged to accept goods with sight draft attached to bill of lading and when the goods arrive they may not be admitted because of inferiority or substitution. One importer went to great expense to bring in a shipment of Digitalis from Spain and when it arrived it was not U. S. P. Digitalis but *D. thapsi*, the action of which, therapeutically, is not known. *Aconitum fischeri* (Japanese aconite) has been offered for *A. napellus*, and this was allowed entry after labeling "Japanese Aconite, not recognized in U. S. P." Ipceac was substituted by *Ipecacuanha fibrosa*, an *Inonidium* species, and *Heteropteris pauciflora*; Stramonium by *xanthium strumarium* (cocklebur); Arnica by *Inula Britannica*; Senna partly by *Tephrosia appolinea*; Scammony by *Ipomoea orizabensis*; Buchu by *Barosma crenulata* var. *latifolia*, *B. pulchellum* and *Empleurum serrulatum*. Belladonna has been adulterated with *Solanum nigrum*, much low-grade belladonna has been offered for entry, but has been allowed to come in for the manufacture of alkaloid and

* Abstract of an address delivered before the Washington Branch of the American Pharmaceutical Association, April 5, 1917.

¹ Chief, Bureau of Chemistry, U. S. Dept. of Agriculture.

preparations capable of adjustments to a prescribed standard. *Hyoscyamus muticus* (Egyptian henbane) has been permitted entry for the manufacture of hyoscyamine. Marjoram has been adulterated with *Coriaria myrtifolia*, a poisonous plant.

The activities of the Bureau are being extended to the control of crude drugs produced in the United States and to providing standards for those not recognized by the Pharmacopoeia or National Formulary. Standards are being determined for Aspidium, Pennyroyal, Unicorn root and many other drugs used extensively in medical practice. The Viburnums have been studied. The description of *V. opulus* in the 8th edition fits *Acer spicatum* and does not apply to the true *V. opulus* and in consequence practically all *V. opulus* on the market formerly was *Acer spicatum* and many standard Viburnum preparations contained none of the true drug.

The situation regarding mustard is very acute at the present time. Russian and German mustards are out of the market and Great Britain has recently placed an embargo on English mustard. Consequently many new types of Brassica are offered for entry, some of which are pungent and others not, and the Department has to be continually on the alert to prevent the flooding of the market with spurious and worthless mustard seed.

PHARMACEUTICALS OF THE UNITED STATES PHARMACOPOEIA.*

BY J. LEON LASCOFF.

Nearly seven years have elapsed since the United States Pharmacopoeial Convention assembled in Washington on May 10, 1910, to revise the pharmacists' book of standards. Thirty-eight states were represented, as well as the Governmental services and National Medical and Pharmaceutical organizations. One year ago the Pharmacopoeia was completed for issue; six months later it was ready for distribution; and on January 1 it became official.

It has been very gratifying to me to be chosen to prepare a paper on the pharmaceuticals of the new Pharmacopoeia, to embody the criticisms of the practical pharmacist, and to present them for discussion.

The average pharmacist is very likely to accept the new Pharmacopoeia in a perfectly matter-of-course manner. To the one who has been behind the scenes, and is conversant with the process of revision, however, the vast amount of work done, the responsibilities entailed, the sacrifice of time, and the energy devoted, without thought of remuneration, the work of revision appears of monumental proportions and calls for praise and admiration of the "men behind the guns," the men who did the work and the chairmen of the various sub-committees.

In New York the Board of Pharmacy has thought it necessary to compel pharmacists to obtain and keep in their possession copies of both the Pharmacopoeia and the National Formulary. In other states, however, such compulsion does not exist. The pharmacist may or may not own these valuable books, as their fancy may direct. And yet to me it seems that these should be not only on the

* Read before New York Branch, A. Ph. A., April 9, 1917.

shelves of every pharmacy, but as a ready reference guide, both should be in the possession of every practicing physician as well.

In comparing the U. S. P. VIII with the later edition, U. S. P. IX, we find many changes. I am not going into details as to the chemicals, as these were thoroughly discussed at the previous meeting, but will deal with the pharmaceuticals only.

While I have studied all these preparations *seriatim*, I will mention here only the more important ones in which the method of preparing has been altered or the finished product has been changed in appearance and taste. For instance: It is hardly worth while to mention such changes as that in

Diluted Hydrochloric Acid, in which the water has been increased from 219 to 220 Cc., or in

Diluted Hypophosphorous Acid, in which the water has been increased from 200 to 210 Cc.

Diluted Hydrocyanic Acid.—The U. S. P. VIII gives a method of preparing this, but the U. S. P. IX describes the method of assaying only.

Diluted Nitric Acid.—The dispensing pharmacist should not discard his old pharmacopoeia when he buys a new one, for in cases such as this he will have to fall back on the old pharmacopoeia as a guide. It seems strange that though formulas for the dilution of most important acids are given, none appears for diluted nitric acid.

Waters.—Recently boiled water is directed for use in the preparation of medicated waters. This was not required in the old pharmacopoeia.

Sterilized Distilled Water is one of the additions to the new book. It is of great importance and its introduction is commendable. The Revision Committee took into consideration the fact that a good many medicated waters not official in the U. S. P. are prescribed, such as lavender water, sambucus water, etc.; it is impossible to enumerate them all. The general working formula is given under the title *Aquae Aromaticae*.

Cantharidal Collodion.—The drug is extracted with acetone and glacial acetic acid instead of with chloroform as in the U. S. P. VIII.

Flexible Collodion.—Camphor is used in place of Canada Turpentine as in the U. S. P. VIII.

Styptic Collodion is transferred from the Pharmacopoeia to the National Formulary IV. Alcohol and ether are omitted and Flexible Collodion is used in the place of Collodion.

Infusion of Digitalis.—The omission of alcohol is very important, as it will discourage the pharmacist from keeping the preparation on hand. The physician usually expects a fresh infusion of digitalis, and I suggested in my paper at the Boston meeting of the A. Ph. A. that alcohol be omitted for this reason.

Ammonia Liniment.—Alcohol and Oleic Acid are omitted. Sesame oil is used in place of cottonseed oil. This liniment of the new United States Pharmacopoeia is far superior to that of the old United States Pharmacopoeia. There is no separation and it keeps better.

Solution of Magnesium Citrate.—Hot water is used, oil of lemon and syrup replace syrup of citric acid, 2.1 Gm. of sodium bicarbonate, compressed, in place of 2.5 Gm. of crystals of potassium bicarbonate. The process of manufacturing

is different from that of U. S. P. VIII. There is no doubt in my mind that the changes are all good, yet this may lead the pharmacists to purchase the preparation from manufacturers instead of preparing it themselves. Vast amounts have been bought ready-made before and these changes may lead to still larger purchases.

Compound Solution of Cresol.—The addition of alcohol improves this preparation. It has also been improved and the cost reduced by using sodium hydroxide in the place of potassium hydroxide.

Mass of Mercury.—One gramme of oleate of mercury is used in preparing 100 grammes of the mass. This was not employed in U. S. P. VIII. This change is very commendable, as it facilitates work.

Compound Licorice Mixture.—The use of antimony and potassium tartrate instead of the wine of antimony saves the work of preparing the wine of antimony.

Mucilage of Acacia.—The use of distilled water instead of lime water is commendable, as it will discourage the pharmacist from keeping large quantities of this preparation on hand and also will avoid the reaction of the lime water with many chemicals with which it is incompatible.

Oleate of Mercury.—The use of alcohol for triturating the mercuric oxide in place of the water is very convenient, as time is saved, alcohol being more readily evaporated.

Oleoresins.—Ether is used in making extractions instead of acetone in preparing the oleoresins of aspidium, capsicum, pepper and ginger.

Syrup of Orange.—Purified talc takes the place of magnesium carbonate. This change is not satisfactory. Longer time is required for filtration and the finished product is not so clear as when the magnesium carbonate is used.

Syrup of Wild Cherry.—The process of manufacturing has been changed to conform to the U. S. P. VII, as the pharmacists were not satisfied with that of the U. S. P. VIII.

Compound Syrup of Sarsaparilla.—Syrup is used instead of sugar and water. This is also true of many other syrups and elixirs, and much time is saved by the change.

Tincture of Iodine.—Fifty mils of water are now added, which is a great improvement, as the ingredients are easily dissolved. I regret to say that a good many of the samples collected which were prepared according to U. S. P. VIII did not come up to the standard. This may have been due to failure in dissolving all the iodine. There should be no excuse for this now.

Tincture of Kino.—The *modus operandi* has been greatly improved. The finished product is far superior and is quite stable.

Tincture of Nux Vomica is now made by percolation of the powdered drug and not from the extract. The standard adopted is based on total alkaloids as recommended by the Brussels Conference of 1906. The old pharmacopoeia directed merely a solution of the extract. This caused a wide variability in color and strength, as no alkaloidal assay was prescribed. An assay is required. The galenical as produced by many pharmacists previously was of unknown strength and therefore of variable effect. But I must state that the process requires care

and time (two hours). The work, however, is not impossible for an intelligent pharmacist.

Ointment of Phenol.—The strength is reduced to 2.25 percent from 3 percent. This prevents separation of phenol on standing. The reduction in strength is also commendable.

Elixirs of the National Formulary.—The use of syrup instead of sugar and water is a great improvement. It is understood, however, that this must be strictly U. S. P.

Elixir Ammonium Bromide N. F. is made more palatable by the change.

*Elixir of Calcium Lactophosphate N. F.**—The ingredients have been entirely changed and the process of manufacture is made very simple.

Elixir of Ferric Pyrophosphate, Quinine and Strychnine N. F.—This preparation is one of the new additions to the National Formulary. Care must be taken that *Elixir Ferri Pyrophosphatis* is not confused with the old U. S. P. *Elixir Ferri Phosphatis*.

Solution of Ferric Oxychloride N. F.—This contains less iron, almost double the amount of ammonia water, 125 mils of glycerin, and less hydrochloric acid than that of the N. F. III.

Solution of Iron Albuminate.—Elixir of peptonate of iron and elixir of peptonate of iron and manganese can easily be prepared by the pharmacists providing the elixir of oxychloride of iron is freshly and properly made. Physicians are frequently desirous of having their mixtures of good color and taste. For this reason they prescribe Lactopeptine Elixir or elixir of lactated pepsin in combination with other chemicals. We have in the National Formulary several galenicals which may appeal to the medical profession, as solvents, adjuvants or correctives. Among them are Aromatic Elixir, Tincture of Caramel, Tincture of Saffron, Tincture of Cudbear, Compound Tincture of Cudbear and Compound Wine of Orange.

PILLS.—I will say just a few words in regard to pills. There are thirty-two pills in the National Formulary and seven in the United States Pharmacopoeia, a great many more than in the old editions. There is also a paragraph on pills which reads as follows:

"Pills are globular or ovoid dosage forms of medicinal substances intended for administration by the mouth. Each pill weighs not less than 0.06 Gm. nor more than 0.5 Gm. If they weigh less than 0.06 Gm. and more than 0.02 Gm. they are usually designated as "Parvules." The standard and popular formulas for pills are prepared in large quantities by the pharmaceutical manufacturers and many ingenious machines for their manufacture and coating have been devised."

Therefore, when a physician prescribes a small pill, such as of yellow mercurous iodide 0.01 Gm., the pill should not weigh more than 0.06 Gm. When the physician prescribes a pill of this kind and the pharmacist dispenses it of 5-grain size or as high as half a gramme he is discouraged and it leads him to prescribe an official pill, specifying a special manufacturer. I have already referred to this subject at some length in a paper read before the Atlantic City A. Ph. A. meeting, but the importance of it justifies this brief reference to it here.

There are about twenty-seven changes in galenicals of the United States

Pharmacopoeia and about seventy-three in the National Formulary. I have enumerated these in my paper on "Uniformity in Dispensing," which was read at the last annual meeting of the American Pharmaceutical Association.

First and foremost, then, it is the duty of the pharmacist to see that his preparations are not only elegant in appearance but also active in their ingredients. A thorough working knowledge of the appearance and properties of the essential drugs is a *sine qua non* for the man who sets out to manufacture his own preparations according to the United States Pharmacopoeia.

The question arises, are the changes which have been made practical from the point of view of the dispensing pharmacist? Is it true that some of the galenicals are so difficult to prepare that most of the retail pharmacists will buy them from the manufacturer direct instead of preparing them himself? As shown on several occasions, the opinion of the majority of the pharmacists is that the Pharmacopoeia should be made as simple as possible in order to encourage pharmacists to manufacture these preparations on their own premises instead of purchasing them and pouring the galenicals out of one bottle and into another as they do when a proprietary article is prescribed. We fully realize that there are some pharmacists who buy preparations from the manufacturers no matter how easily the galenicals can be prepared. I know of a good many instances where ointment of zinc oxide, tincture of iodine, chloroform liniment, tincture of green soap, and even solution of magnesium citrate are purchased from manufacturers.

If the pharmacists take this course they discourage the work of the Committee on Propaganda. The work of this committee has been to encourage the medical men to prescribe U. S. P. preparations, but if the pharmacist buys these from the manufacturer the doctor will go back to the prescribing of proprietaries and all the work and energy of the Committee on Propaganda will have been exerted in vain.

It is true that some of the preparations are difficult to manufacture, but it ought to be a matter of pride on the part of every pharmacist to turn out a satisfactory product, complying in every way with the method and formulas laid down in the Pharmacopoeia, and he ought to have satisfaction in seeing that the finished product of his own handiwork is not only elegant in appearance, but is also effective and satisfactory to the prescriber.

It was very gratifying to me to hear Professor LaWall at the last meeting express in vigorous language his condemnation of the pharmacist who will carelessly or wilfully compound preparations from chemicals intended for technical use only. As far back as June 1911, at a meeting of the New York State Pharmaceutical Association, I had occasion to call the attention of pharmacists to this fault. At that time I said:

"Your reputation depends a great deal upon what you sell; but if you buy right you certainly sell right. The purest drugs give the best results and it is results that we are looking for, and they will reflect upon you and gain for you a reputation. Buy all your proprietaries as reasonably as possible, best discount and best figures; but when drugs and chemicals are bought, price should not influence you. The best is the cheapest in the end. Watch the following labels: "For technical use," "pure," "U. S. P. or C. P."

What will it avail the pharmacist to put all skill and care into his compounding if he works with non-official chemicals? What will be the value of galenicals prepared in this way? The difference in price between U. S. P. and those labeled for technical use is so small that I do not see why the pharmacist should not insist upon getting chemicals of the prescribed character to work with.

I quote from the introductory notices of the United States Pharmacopoeia, and which read as follows:

"Medicinal substances must conform to U. S. P.—Owing to misconceptions on the part of those familiar with pharmacopoeias, it is necessary to make the following statement:

"Standard of purity and strength, prescribed in the text of this Pharmacopoeia, are intended solely to apply to substances which are used for medicinal purposes or in determining the identity or purity of such substances."

"Some misunderstanding has also prevailed in the past with regard to the strength or purity of articles directed to be used in formulas or in testing. The words 'alcohol,' 'syrup,' 'glycerin,' or any other official title when used in this text and not otherwise specified is understood to mean the official article. In the case of alcohol, it is official alcohol 94.9 percent by volume that is intended and not absolute or dehydrated alcohol. 'Syrup,' when not otherwise specified, is intended to mean syrup of the official strength and quality. Official preparations are to be made from drugs that conform to the official definitions, tests and descriptions."

It must be borne in mind that there are a great many pharmacists who do not care to put up their own preparations. They may have a very small prescription demand, and it would be unprofitable for them to manufacture their own galenicals. It is perfectly proper and legitimate for these to buy their preparations from reputable manufacturers. But it is well for these pharmacists to remember that when they sell a preparation, they, themselves, become personally responsible before the law for the character and standard of the article sold. It behooves them to purchase only from reliable manufacturers, to see that all their preparations are labeled U. S. P. or N. F., and if they wish to be completely protected, either to assay the preparations or to have them assayed. It would be almost impossible for the average druggist to assay liniment of camphor, for, as Doctor Mayer has already pointed out, at a previous meeting, the analysis of this preparation would require the use of a polariscope and familiarity with this method of assaying. It would also be difficult for the average druggist to assay tincture of *nux vomica* according to the pharmacopoeial method.

In conclusion, pharmacists must bear in mind the fact that the Pharmacopoeia and the National Formulary are both books of legal standards, and no matter where or by whom galenicals are made they must be made strictly in accordance with the standards set down in those books. The Committee of Revision of both works deserve to be highly complimented for their excellence. We know that there is always room for criticism, but we must remember that it is impossible to suit everyone, and this is the task set for the Committees of Revision.

SHOULD PATENT LAW DISCRIMINATE AGAINST CHEMICAL AND MEDICAL DISCOVERIES?*

BY CHARLES M. WOODRUFF, OF THE DETROIT BAR.

Recognition of the right to peaceably possess and enjoy what one had discovered marked the very first step in civilization. Until then man owned what he could actually occupy and hold for just so long as he was able to keep some other man from dispossessing him of it either by force or stealth.

The right to occupy and possess did not at the beginning depend upon original discovery. One might occupy a cave whatever evidences of previous discovery and occupancy he found in it. Not only that, he might possess himself of the evidences of occupancy that had been left while the owner, if owner he could be called, had gone forth with the crude weapon he had invented, in search of game or plunder.

What this marauder did was nothing more than he himself had suffered and nothing more than his victim had done to others and would do again. Of course this was not a very agreeable situation and a more satisfactory *modus vivendi* was found in a mutual recognition of the right of one to peaceably possess, occupy and enjoy what one had discovered.

This new condition resulted in two things that have made more for the progress of the human race than any other thing or group of things one can imagine:

1. The necessity of discovery in order to live, for if one could not live by what others had found, he must engage in a little research work on his own account.
2. The assurance that if one searched and found he would peaceably enjoy what he found; therefore, more heart and energy in searching.

It is not to be supposed that every individual member of the crude society of that prehistoric time heartily endorsed the new order of things. The communistic idea that one should profit by another's industry or good fortune prevailed among a class who soon became known as thieves for doing what had been considered in the earlier day both ethical and moral, and so this crude prehistoric society devised crude forms of government for the protection of what had come to be an ethical right, and thus by the slow but sure process of evolution, the first legal rights of property were established.

In these early prehistoric times the subjects of property were few.

Real property comprised the cave dwelling, or the cliff dwelling, or the crude shack on stilts out in the lake. These habitations were not investments. There were no title deeds and abstracts. There was no possession *in presenti* and no property *in futuro*; nevertheless this crude idea of one's owning a cave to live in and having a recognized right to hold it against all others supported by the power of the state—such as it then was—is the stock from which all our present forms of real property and interests in real property have sprung, by a natural process that it would be interesting to dwell upon if time permitted and that were our subject.

Personal property was confined to tangible property at first—the spoils of the hunt, the crude stone utensils and the skins of animals which served as clothing.

* Presented before the April meeting of the Indianapolis Branch, A. Ph. A.

The first intangible property was unquestionably the right of succession. The dawn of intelligence, the morning sun of reason, illumined the idea that the wife and children of a deceased man had the natural right before all others to occupy and possess the property he had died possessed of. There were no creditors in those days. Debit and credit developed very, very much later in the long continuing evolutionary process which has brought us to our present high state of civilization.

Man then began to become possessed of things he did not need, or had no further use for. He found others possessed of things he would rather have and that they did not want. The idea of the right of possession gave birth to the idea of the right of disposition and bargain and exchange followed.

Now, as we have seen, discovery and invention had existed from the very beginning. We are told that "necessity is the mother of invention." The necessity of shelter led man to look for a cave; the necessity of food led to the invention of crude implements of stone; and the necessity of heat led to the discovery of the first tedious methods of producing fire. But these early discoveries had no commercial value because there was no commerce. If a cave man invented a new instrument it sufficed him that he could use it. "Why should he worry" if his neighbor made one like it? He lost nothing.

But the idea of bargain and exchange developed into commerce. In the long history of evolution centuries are but days; and in few of the days the subjects of property had become so many, their character so complex, the necessities of man had so multiplied, that men had come to count their wealth, not in caves or even in lake-dwellings; not in the rude implements, the result of their own handiwork, not in the articles of bronze and brass, of iron and silver and gold that came in later years; but in that which represented all these things—MONEY.

Man had passed from the age of bargain and exchange into the age of bargain and sale, and while exchange still exists it remains what was at the very start—a mere convenience for trading something we don't want for something we do.

The great incentive of research had ceased to be actual necessity and had come to be profit and gain.

But as man originally had not recognized property rights in the particular cave another had discovered or in the particular stone implement another had made, he now recognized no exclusive property right in any new discovery or invention the most arduous research worker had wrought out. There was an instinctive, natural feeling that an inventor should have some suitable reward for his discovery; but the only recourse he had was in keeping his process or methods secret; and this is the explanation of what we now speak of as the "lost arts."

But the world continued to progress. The sun rose and set on many more evolutionary days, and kings began to grant monopolies to certain favorites for one reason and another, although ordinary monopolies were the object of the law's displeasure; contracts in restraint of trade were illegal, and forestalling, regrating and engrossing had come to be common law crimes.

But these monopolies granted by the Crown and the State were grounded on some benefit accruing to the public. Some of them, of course, were merely an expression of the royal favor; but even these were, or were claimed to be, in reward for some great service performed for the King, and therefore for the King's sub-

jects. Some grew out of the necessities of the case like franchises more recently granted railroad companies with covenants that similar franchises would not be granted competing companies.

What we know as the "Patent" was one form of monopoly granted by the Crown or State for the benefit of the public. It was not an arbitrary invention of statutory law, although its existence and the scope of the monopoly granted is determined by and depends upon the written law. It traces its genealogy back through the ages in a straight line of descent as having come down to us from the cave man, in just as natural a course of the process of the evolution of things as any institution, manner, or custom we have.

Coming down to our own history, we find that the American Colonies granted patents to inventors, and later the states, which did not delegate this power under the Articles of Confederation.

On the 18th of August 1787 Charles Pinckney submitted certain propositions to the Committee of Detail of the Constitutional Convention then sitting, among which was one "to grant patents for useful inventions."

The Committee on Detail made no report on the subject, but on the 5th of September 1787, Mr. Brearley, of the "Committee of Eleven," reported the clause which now appears in the fundamental law of the United States of America.

It is interesting to note that in his first inaugural address President Washington used this language:

"I cannot forbear intimating to you the expediency of giving effectual encouragement as well to the introduction of new and useful inventions from abroad as to the exertion of skill and genius in producing them at home."

Thus one of the powers delegated to Congress by the Constitution of the United States is:

"To promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

A patent has been judicially defined to be "a contract by which the government secures to the patentee the exclusive right to vend and use his invention for a few years, in consideration of the fact that he has perfected and described it and has granted its use to the public forever after."¹

In harmony with this constitutional provision we now have a patent law which gives ample protection and therefore incentive to American research workers in the field of chemistry, medicine and pharmacy. And what sciences deserve more encouragement than these, affecting as they do the health and lives of our people?

It therefore seems remarkable to the lawyer, and even to the intelligent layman that a movement is actually on foot to deprive those who, above all others, should have the effectual protection of our patent laws, and to single them out as unworthy of the reward granted to inventors in other fields of discovery. That such a bill as the Paige Bill has been introduced and seriously considered seems unexplainable.

The Paige Bill provides that no patent shall be granted "upon any drug, medicine, medicinal chemical, coal-tar dyes, or colors or dyes obtained from

¹ (Nat. Hollow B. B. Co. v. Int. B. B. Co., 106 Fed. Reporter, 693-701. Watson on the Constitution, Vol. I, p. 660).

alizarin, anthracene, carbazol, and indigo, except in so far as the same relates to a definite process for the preparation of said drug, etc." In other words, Mr. Paige proposes to grant a process but not a product patent.

To those who have some knowledge of medical and pharmaceutical history the matter is not so astonishing, and two explanations appear.

1. Medico-pharmaceutical prejudice founded on tradition.
2. The exploitation of the American public by German chemical concerns.

Treating of these in the order given, we are brought to remember that until very recent times the physician could not recover for his services upon an implied contract. He was supposed to be practicing from a higher motive than the despised tradesman. Doctors who did not have independent sources of income depended upon honorariums from patients who were grateful enough and able enough to give them. If it was a goose from a peasant or a crown from a gentleman it was all the same. This custom worked out poorly for both the public and the profession, and so, like a great many rules of the early common law, it was changed, when a courageous judge, defying precedent, declared that the laborer was worthy of his hire—in other words, that a professional man, in the absence of an express agreement, was entitled to recover what his services were proved to be reasonably worth.

For the same reason that a doctor could not recover for his services on a *quantum meruit*, he did not seek compensation of any kind for any discovery he might chance to make. This, however, was merely a matter of ethics and never a rule of law. What was a rule of ethics with respect to the relation between a physician and his patient was formerly also a rule of a law it is true, but the law changed because it was not just and we now find the most ethical physician sending out his bills periodically, entirely satisfied with the new order of things.

He is not so quick, however, in abandoning the companion rule of ethics respecting medical and pharmaceutical discoveries. On the contrary he would enforce his ethical tenets upon his fellows by a severe rule of positive law.

In this the physician is the successor of the religious zealot who sought to make the world believe as he believed, by the power of the state, the result being that it took centuries of religious wars for control of the state to demonstrate that both the state and religion have prospered by absolute separation.

When we look at the matter from the broader view-point of political economy and weigh it in the scales of jurisprudence, which is the formal science of positive law, the ethical reasons advanced in favor of the Paige Bill appear narrow and without weight.

The other explanation needs only to be referred to. We all know how the German houses have exploited America during the last twenty-five or thirty years. It is proposed to punish them by robbing the American chemist of every possible incentive to discover new products, and to encourage him to confine his efforts to inventing new processes for old products. This is the same wisdom the pet bear displayed which, desiring to relieve his sleeping master from the annoyance of a buzzing fly upon the master's bald pate, brought his huge paw down upon the fly and the master's head with such force that his master slumbered ever after.

Improvements in processes are desirable, of course. They are being made continually, but they are not being patented except in connection with new prod-

ucts, and this of necessity. We have in mind a new process for producing a certain well-known substance which reduces the cost of production one-half, but it is not patented, and never will be. The owner prefers to run the risk of being able to keep the process a secret rather than the risk of having it divulged in the specifications of a patent and being able to prove an infringement. And this is the case with thousands of private processes used in our laboratories.

But the public is not crying for new chemical and pharmaceutical processes. It wants new products. Our research laboratories are not maintained to invent new processes, but new products, and where is the reward for the initiative and enterprise of the manufacturers who are spending immense sums in salaries to research workers, in apparatus and supplies if product patents are not granted?

If such a measure as the Paige Bill becomes a law new products may be discovered, but the processes of making them will be kept secret, and in more than one case the secret will be buried in the grave of the inventor. We have personal knowledge of just such an instance in the varnish trade.

More recently the advocates of the Paige Bill have acknowledged the force of the objection that a patent on a chemical process is practically worthless and point out that our patent law should also be amended so that one charged with infringement of a process patent must bear the burden of proof, and actually demonstrate his ability to produce the product by some other process—probably a new process he has invented and upon which he is entitled to a patent. We are reminded that this is the German law.

Is this not all very incongruous? Think of it a moment. Remember that America is not Germany, nor her institutions our institutions, and you will appreciate the fact that this proposition involves a political revolution.

In America innocence is presumed until guilt is shown. Shall Congress be expected to do the injustice of first depriving an important class of inventors of earned reward for their inventions and then righting the injustice by establishing a principle that is recognized in all free countries as fundamentally wrong? The presumption of innocence is one of the sacred rights for the preservation of which our forefathers fought.

Again! If a man has discovered a new process he has the natural right to keep that process secret. The law recognizes and enforces that right, and yet the advocates of the Paige Bill submit a plan to correct the wrong the bill effects that involves the injustice of compelling another to disclose a trade secret as the alternative of being adjudged to have infringed a process patent. We modestly submit to the distinguished pharmaceutical jurist who suggested that adoption of German law into American jurisprudence that this might be held to be a violation of the 14th amendment to the Constitution of the United States, in that it was a deprivation of property without due process of law.

Let us emphasize the statement that a chemical process patent is practically worthless and the fact that this is admitted by the advocates of the Paige Bill; have we not shown that the method they propose for making a process patent valuable is not possible under our system of government?

The Paige Bill itself is un-American in that it discriminates. The spirit of our institutions demands that our patent law shall treat all inventors alike, and any bill that has the effect of giving a man who discovers a new toy, or a new

face powder, or a new dog collar a patent on the article itself, while it denies one to the man who may discover a substance that will be to cancer what antitoxin is to diphtheria, not only violates the foundation principle of equality before the law, but is supremely ridiculous.

But we are reminded at this point that we must forget the individual and remember the public. The answer may well be that whatever is unjust to the individual is injurious to the public. The sincerity of some who make this suggestion may also be questioned; but neither the sincerity nor insincerity of an advocate has anything to do with the merits of any proposition. The patent law is in the interest of the public. We have read that the patent is a contract by which the public buys the free use of the patent forever, in consideration of a monopoly for a few years.

The Constitution delegates to Congress the power to "promote the progress of science and useful arts."

How?

"by securing for limited times to authors and inventors."

What?

"the exclusive right to their respective."

Processes only? No, indeed!

"writings and discoveries."

Discovery is an inclusive word. It may be a process and it may be a product. There is no warrant in the constitution for discrimination between processes and products and the public owes to-day all that it enjoys over and above what they enjoyed in their day to the members of the Constitutional Convention of 1787, whose wisdom and foresight gave Congress the power to grant patents for products as well as for processes.

Lest we may be accused of generalization let us give one concrete reason why the trade and the public are both benefited by the product patent as applied to medicine. We all know how concerned the originator of a new therapeutic agent is to preserve the quality of his product. He has spent a moderate fortune in preliminary laboratory and clinical research, the results of which convince him of his duty to lay it before the profession; he is interested in its success, and therefore, naturally, in the quality of every lot he puts out. With him quality is the first consideration. He has a scientific pride in the substance. Supposing the substance is not patented, when do competitors think of entering the field? Not until the harvest is ripe, and the only concern of any one who is dishonorable enough to undertake to reap such a harvest is to get all of the crop he can. Quality? That's nothing. He'll overcome the advantage an originator naturally has by prices; hence prices are cut; dealers' profits are reduced; and the outcome of the whole matter is: the originator is wronged morally if not legally; the reputation the genuine product has gained is destroyed by inferior quality of competing brands; the trade loses the just profits the originator can no longer maintain; and the accumulated burden of moral injustice finally rests upon the shoulders of the public.

In the name of equal right and common justice we therefore submit that product patents should not be denied inventors in the field of chemistry, medicine, pharmacy and surgery.

CONTRIBUTED AND SELECTED

THE USE OF SYNONYMS IN THE NEW NATIONAL FORMULARY.

BY O. C. FRIEDENBERG AND W. W. DAVIES.

We realize that it would be quite wrong at such an early period to make any broad and sweeping statements about this new edition except after almost continuous study and diligent application. Hence, with the volume in our hands only a short time, we will comment on but one of the aspects of the work.

Our topic, as the title of the paper designates, concerns the use of synonyms in official products. In considering this subject, which is a new idea for the National Formulary, we must all realize that each one of us, yes, and even groups of us are only mortal and prone, therefore, to mistakes of judgment and oversight. It is some of these possible mistakes of judgment and oversight about which we are writing—and we say “possible” intentionally, for the editors of the book may be able to advance satisfactory reasons for them although they seem inconsistent to us.

In discussing this point we wish to impart the idea to the reader that we feel that the including of the synonyms in the National Formulary IV titles is very commendatory. Since this volume will be recognized by the Federal Food and Drugs Act their proper use would tend to strengthen the work as a legal standard as is the intention implied by the paragraph on page XXXVII of the N. F. IV. This states: “Any substance used or sold under the synonym-name recognized in this book must comply with the standards set for the article under its official title.” However, we think that there has been an indiscreet use of synonyms in some cases which makes the book appear very inconsistent in the eyes of the readers and thereby will tend to weaken its legal status when it has been accepted by the government.

Let us cite certain instances as illustrative of some of the difficulties which might arise after the N. F. IV has become legally official. In the N. F. IV we find a product entitled “Compound Elixir of Pepsin and Rennin” and as a synonym is given “Essentia Pepsini, N. F. III.”

N. F. III.	
Pepsin.....	22.5 Gm.
Rennin.....	16.5 Gm.
Lactic Acid.....	2.0 Cc.
Tr. Sweet Orange Peel.....	10.0 Cc.
Glycerin.....	125.0 Cc.
Alcohol.....	50.0 Cc.
Syrup.....	65.0 Cc.
White Wine (Angelica).....	365.0 Cc.
Purified Talc.....	15.0 Gm.
Water.....	q. s.
<hr/>	
To make.....	1000 Cc.

N. F. IV.	
Pepsin.....	22.5 Gm.
Rennin.....	16.5 Gm.
Lactic Acid.....	2.0 mils
Tr. Sweet Orange Peel.....	15.0 mils
Glycerin.....	150.0 mils
Alcohol.....	200.0 mils
Oil of Myristica.....	0.1 mil
Purified Talc.....	20.0 Gm.
Distilled Water.....	q. s.
<hr/>	
To make.....	1000 mils

In glancing over the N. F. III and N. F. IV formulas we see here that the basic features remain the same, but that the alcoholic content of the N. F. III

is about 11 percent and the N. F. IV about 18½ percent. Suppose a druggist orders from a manufacturer a gallon of Essence of Pepsin, N. F. III; according to the statement regarding synonyms previously quoted from the N. F. IV, the manufacturer should furnish a product complying with the standards of the N. F. IV. If he does furnish the N. F. III product and labels it as N. F. III he is transgressing the Food and Drugs Act which makes the National Formulary legal, inasmuch as the galenical furnished should conform to the standards set for the article under its official (N. F. IV) title. As noted before, the N. F. III article does not actually conform to all the standards of the N. F. IV, to wit: the alcohol content, the statement of which is required on the label by law. Hence, really in a strictly legal sense one cannot sell the Essence of Pepsin, N. F. III without his committing an offence punishable under the Food and Drugs Act. Just what is the manufacturer to do in such a case?

Next we will mention a more flagrant example, one in which you will be given the opportunity to transgress the Patent Laws, the Federal Food and Drugs Act, and the Harrison Narcotic Law as well.

VIOLATION OF THE PATENT LAWS.

Let us look at the title of "Elixir Terpin Hydrate and Diacetylmorphine" in the N. F. IV. Under it we note the synonym, "Elixir Terpin Hydrate with Heroine, N. F. III." Although Diacetylmorphine and Heroine may be the same chemically we are of the opinion that a person substituting Diacetylmorphine for Heroine lays himself open to prosecution by the patentees of Heroine. For this reason then the N. F. IV article would not be synonymous with the N. F. III legally.

VIOLATION OF THE FEDERAL FOOD AND DRUGS ACT.

Now let us compare the two formulas:

N. F. III.		N. F. IV.	
Heroine.....	0.75 Gm.	Diacetylmorphine Hydro-	
Elixir Terpin Hydrate.....	1000 Cc.	chloride.....	0.27 Gm.
		Elixir Terpin Hydrate q. s. to	1000 mls
Av. Dose 4 Cc. (1 fluidrachm)		Av. Dose 4 mls (1 fluidrachm)	

You will see that in the N. F. IV product the amount of Heroine or Diacetylmorphine Hydrochloride is reduced from ⅓ grain of Heroine (N. F. III) to ⅓ grain of Diacetylmorphine Hydrochloride to the fluidounce. Hence once more it is observed that the N. F. III elixir does not meet the standards set for the N. F. IV product and therefore one may lay himself liable according to the Food and Drugs Act when he sells this N. F. III article.

VIOLATION OF THE NARCOTIC LAW.

When the druggist is supplied the N. F. III product a narcotic order is required—this is not necessary in case the N. F. IV article is furnished. If the N. F. III elixir is to be considered synonymous with the N. F. IV, the manufacturer should be able to supply it, as well, to the druggist without the narcotic order—yet his doing this would be an open violation of the Harrison Law.

POSSIBLE CONFUSION FOR PHARMACIST AND PHYSICIAN.

The situation is certainly confusing at every angle for we also find it will permit of misunderstandings between the druggist and the physician. Consider that the druggist has the N. F. III product in stock and receives a prescription for "Elixir Terpin Hydrate and Diacetylmorphine." For example, let us reason that the doctor intended and supposed the N. F. IV product would be used. The druggist finds in his new Formulary that the N. F. IV and N. F. III titles are synonyms, and is led to believe that the products have the same composition, for the word "synonym" implies "likeness." He fills the prescription from his N. F. III stock and as a result the dose that the patient is directed to take is about three times the narcotic strength which the physician intends and undoubtedly is contraindicated in the patient's illness.

We are sure the editors did not intend to place the pharmacist, physician, or manufacturer in such a situation as we have pictured, but rather intended that this new book should be clear cut and definite in every instance. It is to be hoped therefore that our readers will have construed our remarks—as we meant them—not as criticism but for their constructive value, and we trust this article will prove its worth to the pharmacist or physician if even by merely calling his attention more closely to the synonyms of the official products.

LABORATORY OF

DAVIES, ROSE & Co., LTD., BOSTON, MASS.

RULING OF TREASURY DECISION 2194 REVOKED.

In a recent treasury decision issued by the Commissioner of Internal Revenue and approved by the Secretary of the Treasury, the ruling contained in T. D. 2194, holding synthetic substitutes subject to the provisions of the Harrison Narcotic law has been revoked. The text of the decision, which is addressed to collectors of internal revenue and others concerned, is as follows:

The ruling contained in T. D. 2194, holding synthetic substitutes subject to the provisions of the Act of December 17, 1914, and requiring manufacturers of, dealers in, and physicians prescribing any such substitutes, as therein defined, to register and otherwise conform to the Harrison Narcotic law and the regulations issued thereunder, is hereby revoked, to take effect this date (April 10).

This ruling follows the decision of a United States Court of Appeals, which held that novocain, orthoform, anaesthesin, holocain, and other synthetic substitutes for cocaine do not come under the provisions of the Harrison Narcotic law, and that physicians, dentists, druggists and wholesalers prescribing, using, or selling such synthetics, may do so without registering or using the official blanks.

EXTEMPORANEOUS PREPARATION OF SULPHUROUS ACID.

BY ROBERT W. TERRY.

In the April 1917 issue of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION there is an interesting article by Prof. Otto Raubenheimer on the above subject, the article being entitled "Sulphurous Acid, Its Extemporaneous Preparation."

This article is of practical value to the retail druggist, although sulphurous acid is not often prescribed. When it is necessary to dispense same, the stock acid has deteriorated to such an extent as to render it unfit to use. The average pharmacist has not the equipment or the time to prepare it according to the U. S. P. VIII.

For those who have not read Prof. Raubenheimer's article, I will briefly state the three processes he gives.

- 1.—By the interaction of potassium sulphite and tartaric acid.
- 2.—By the interaction of calcium sulphite and sulphuric acid.
- 3.—By the interaction of sodium sulphite and hydrochloric acid.

The first two processes produce precipitates, and as Prof. Raubenheimer states, potassium and calcium sulphites are infrequently kept in drug stores; in the third process, the by-product, sodium chloride, is left in solution. The finished acid made by the third process will contain about 12 percent of sodium chloride. The writer cannot agree here with Prof. Raubenheimer regarding the inertness of the sodium chloride. Sulphurous acid, containing that quantity of sodium chloride in solution, when applied to a sensitive surface or sore would produce an undesirable irritation. Furthermore, a pharmacist dispensing sulphurous acid containing sodium chloride in it would be liable to prosecution on the grounds that it does not conform to the standard set for that acid in the U. S. P. VIII, namely, that it is completely volatilized by heat.

Five days ago the writer had occasion to run some arsenic determinations according to the U. S. P. IX: sulphurous acid is used to reduce arsenic compounds to the arsenous state. A pure acid is required for this work. Not having time to prepare it according to the U. S. P. VIII, the writer devised the following process: charge a 500-mil Woulfe bottle with 70 grammes of anhydrous sodium sulphite and about 100 mls of water, connect the Woulfe bottle with a receiving bottle of about 350 mls capacity, containing about 300 mls of water, surround the receiving bottle with ice and when the water has been chilled add a small quantity of sulphuric acid through a thistle tube into the Woulfe bottle. Slowly add sulphuric acid until about 30 mls are used. The heat generated by the acid and water mixing facilitates the liberation of the sulphur dioxide, which passes over into the receiving bottle and dissolves in the water. Theoretically the above quantities used would produce 500 mls of a 6.4 percent *w/v* acid, provided no sulphur dioxide remained in the Woulfe bottle. By this process the writer produced 300 mls of sulphurous acid assaying 9 percent SO_2 *w/w* in 35 minutes.

Sample No. 1.—This was not assayed at time of preparation. Stored in a half filled (clear glass) glass stoppered bottle for 5 days, it assayed at that time

2.83 percent SO_2 w/w, specific gravity 1.020, at 25 C., and gave a marked reaction for sulphuric acid.

Sample No. 2.—Was assayed immediately after preparation. It contained 8.97 percent SO_2 w/w, specific gravity 1.051, at 15 C. and gave a fair reaction for sulphuric acid. The sulphuric acid present was not oxidized from the sulphurous acid but was carried over by the spray, likewise the specific gravity is slightly too high, being due to the small quantity of sulphuric acid and sodium sulphate present. The specific gravities were taken with a calibrated thermo-urinometer. The presence of these impurities can be avoided by interposing a small wash bottle of water between the Woulfe bottle and the receiving bottle. Both the above samples, however, produced arsenic-free sulphurous acid, conforming to the U. S. P. IX, except as to strength.

The process given here is for the convenience of the chemist or the pharmacist who is equipped to assay preparations and adjust them to the desired strength. No experiments were made to see if by controlling the quantities and the rate of liberation of the sulphur dioxide, a product of the desired strength could be produced. If so this process with slight modifications could be used in every drug store.

This would be an interesting problem for some pharmacy student to work out.

BILLS IN CONGRESS OF INTEREST TO THE DRUG TRADE.

The opening of the special session of Congress brought with it the introduction of a flood of bills into both the House of Representatives and the Senate, many of which are of interest to or have a direct bearing on the drug trade. One of these contemplates the taxing of all persons, firms, and corporations engaged in the mail order business. The bill was introduced by Congressman M. Clyde Kelly, of Pennsylvania. It provides that all persons, firms, or corporations in the United States which are now conducting or may hereafter conduct an interstate mail order business, shall pay a tax of two percent upon the total cash value of all goods, wares and merchandise sold within any state.

To stop the giving of coupons, prize tickets, or other devices, with the sale of various kinds of goods, to be redeemed for other goods or for cash, Congressman Richard W. Austin, of Tennessee, has introduced a bill providing that each such coupon, prize ticket, or other device shall be taxed two cents, and a similar tax is to be levied, on and after September 1st, next, on the redemption thereof. Mr. Austin would have any person, firm, or corporation failing to affix such stamp or stamps as required, subjected to a fine of \$50. Congressman Luther W. Nott, of New York, would put a stop to the giving of coupons and coupon devices accompanying such articles as are usually sold in a cigar store, by placing a tax of four percent of the retail selling price of the article purchased, on each sale, the tax to be paid by the retail dealer.—*Pharmaceutical Era*, April, 1917.

PHARMACEUTICAL FORMULAS

PROPOSED FOR A. PH. A. RECIPE BOOK.

A complete list of these Proposed Formulas since February 1912 was published in an index in the December 1916 number of the JOURNAL. The Committee will continue its work in monthly instalments in this Department of the JOURNAL. Members of the A. Ph. A. are earnestly requested to send suitable formulas and also criticisms of those published to the Chairman.

Otto Raubenheimer, Brooklyn, N. Y.

Contributed by Irwin A. Becker, Michael Reese Hospital, Chicago.

The following is a copy of a circular which has been distributed among the members of the Society of Clinical Surgery, according to a vote at the Baltimore meeting, Oct. 20, 1916.

No. 500.

CARREL'S FORMULA FOR MAKING DAKIN SOLUTION.

Preparation of Dakin Solution. Technique of Dr. Maurice Daufresne.

Preparation of Dakin Solution.

The solution of sodium hypochlorite for surgical use must be free of caustic alkali: it must only contain 0.45 to 0.50 percent of hypochlorite. Under 0.45 percent it is not active enough and above 0.50 percent it is irritant.

With chlorinated lime (bleaching powder) having 25 percent of active chlorine the quantities of necessary substances to prepare 10 liters of solution are the following:

Chlorinated Lime (bleaching powder) 25 percent of Cl.....	200 Gm.
Sodium Carbonate, dry (soda of Solvay).....	100 Gm.
Sodium Bicarbonate.....	80 Gm.

Put into a 12-liter flask the two hundred Gm. of chlorinated lime and five liters of ordinary water; shake vigorously for a few minutes, and leave in contact for six to twelve hours: one night for example.

At the same time dissolve in five liters of cold ordinary water the sodium carbonate and bicarbonate.

After leaving from six to twelve hours, pour the salt solution into the flask containing the macerated chlorinated lime; shake vigorously for a few minutes and leave, to allow the calcium carbonate to be precipitated. In about one-half hour, siphon the liquid and filter with a double paper to obtain a good clear liquid. This should always be kept in a dark place.

Titration of Chlorinated Lime (Bleaching Powder).

Because of the variation of the products now obtained in the market, it is necessary to determine the quantity of active chlorine contained in the chlorinated lime which is to be used. This is in order to employ an exact calculated quantity according to its concentration.

The test is made in the following manner: Take from the different parts of the jar a small quantity of bleaching powder to have an average sample weigh 20 Gm., mix as well as possible in a liter of water and leave in contact a few hours. Measure 10 mls of a clear fluid and add 20 mls of a 10 percent solution of potassium iodide, 2 mls of acetic acid or hydrochloric acid; then put drop by drop into the mixture a decinormal solution of sodium thiosulphate (2.48 percent) until decoloration. The number of mls of thiosulphate employed, multiplied by 1,775, will give the weight N of active chlorine contained in 100 Gm. of chlorinated lime.

The test must be made every time a new product is received. When the result obtained differs more or less than 25 percent, it will be necessary to reduce or enlarge the proportion of the three products contained in the preparation. This can be obtained easily by multiplying each of the three numbers, 200, 100, 80 by the factor $\frac{25}{N}$ in which N represents the weight of the active chlorine percent of chlorinated lime.

Titration of Dakin Solution.

Measure 10 mls of the solution, add 20 mls of potassium iodide 1 in 10, 2 mls of acetic acid, and drop by drop a decinormal solution of sodium thiosulphate until decoloration. The number

of mls used multiplied by 0.03725 will give the weight of sodium hypochlorite contained in 100 mls of the solution.

Never heat the solution; and if in a case of urgency one is obliged to resort to the trituration of chlorinated lime in a mortar, empy water only, never salt solution.

Test of the Alkalinity of Dakin Solution.

To easily differentiate the solution obtained by this process from the commercial hypochlorites, pour into a glass about 20 mls of the solution and drop on the surface of the liquid a few centigrammes of phenolphthalein in powder. The correct solution does not give any coloration, while Labarraque's solution and Eau de Javelle will give an intense red color, which shows in the last two solutions existence of free caustic alkali.

No. 501.

SPECIES BECHICAE.

Cough Species.

Hustentee.

D. M.

Althaea.....	45 Gm.
Glycyrrhiza.....	45 Gm.
Fennel.....	10 Gm.

Make a coarse species.

No. 502.

SPECIES AD ENEMA.

Enema Species or Herbs.

Klistierkrauter.

D. M.

Linseed.....	1 part
Matricaria.....	1 part
Althaea Leaves, N. F.....	2 parts

Crush the seed and cut the herbs. Used as an infusion for enemas.

No. 503.

SPECIES AD FOMENTUM.

Foment Herbs.

Blä chungskrauter.

D. M.

Humulus.....	40 Gm.
Lavender Flowers.....	
Serpyllum.....	
Rosemary.....	
Matricaria, of each.....	15 Gm.

Make a coarse species. Prepare an infusion and use this as a hot application against colic and wind colic.

No. 504.

SPECIES DIAPHORETICAE.

Diaphoretic Tea.

Muenchen.

Tilia Flowers.....	
Sambucus, N. F.....	
Verbascum, N. F.....	equal parts

Cut the mullein flowers and mix with other ingredients.

Used in the form of an infusion as a diaphoretic, being superior to linden flowers alone.

No. 505.

SPECIES HERBARUM ALPINARUM.

Species Alpinae.

Alpine Herb Tea. Alpine Tea.

Alpenkrautertee.

Muenchen.

Frangula.....	40 parts
Senna.....	20 parts
Tilia Flowers.....	
Sambucus, N. F., of each.....	10 parts
Verbascum, N. F.....	
Acacia Flowers.....	
Rest Harrow Root.....	
Lovage Root, of each.....	5 parts

Prepare coarse species.

A very popular remedy, also in the United States, for which reason the publication of a reliable formula is desirable. Used as a laxative by making an infusion from about 2 teaspoonfuls of the species. Also recommended against chronic constipation.

No. 506.

SPECIES INFANTUM.

Infant Tea. Kindertee.

Beruhigungstee.

Muenchen.

Matricaria.....	
Fennel, of each.....	10 parts
Althaea.....	
Glycyrrhiza.....	
Triticum, of each.....	20 parts
Parsley Fruit, U. S. P. IX.....	5 parts

Mix the cut roots with the flowers and fruits.

Soda Fountain Requisites.

It has been decided that the A. Ph. A. Recipe Book will contain Formulas for Soda Fountain Syrups, Flavorings, Ices, Ice Creams, etc., etc. This subject has been referred to a Sub-Committee of which Mr. Wm. Gray, Chicago, contributes the following formulas, accompanied with

the comments: "The formulas are the result of long experience with high-grade trade. They have been thoroughly tried and I can guarantee that they will give the utmost satisfaction."

It will be noticed that in the contributed formulas the quantity of some of the solids, such as sugar and fruits, are *not given by weight but by volume*, namely in mils. This procedure is also followed in other recipes, especially in cook books.

No. 507.

CARAMEL SYRUP.

Syrupy Caramel.

Sugar Coloring.

Sugar.....	4000 mils
Water.....	2000 mils

Melt sugar in an iron frying pan. By the time the sugar is melted it is caramelized. Then add the water, previously heated to boiling point and boil to the consistency of a syrup.

No. 508.

ESSENTIAL TINCTURES.

For Flavoring.

From time to time as convenient, place thin sliced outer Orange, Lemon or Tangerine Orange Peel (free from the white inside peel), into a wide mouth bottle about half filled with Alcohol "190 proof preferred," always keeping the alcohol above the peel. After bottle is filled with closely packed peel, allow to stand for one week, then filter.

No. 509.

EXTRACT OF VANILLIN.

Synthetic.

Vanillin.....	30 Gm.
Coumarin.....	0.33 Gm.
Alcohol.....	150 mils
Glycerin.....	180 mils
Caramel.....	40 mils
Water, a sufficient quantity,	

To make 4000 mils

No. 510.

SYRUP OF ORANGE.

For Fountain.

Essential Tincture Orange Peel.....	45 mils
Orange Flower Water.....	15 mils
Solution Citric Acid, 50%.....	60 mils
Syrup, a sufficient quantity,	

To make..... 4000 mils

No. 511.

RED CURRANT ICE.

Red Currants.....	2000 mils
Water.....	2000 mils
Sugar.....	1000 mils
Gelatin.....	15 Gm

No. 512.

TANGERINE ORANGE SYRUP.

For Fountain.

Essential Tincture Tangerine.....	
Orange Peel.....	45 mils
Solution Citric Acid, 50%.....	90 mils
Tincture Cudbear.....	4 mils
Syrup, a sufficient quantity,	

To make..... 4000 mils

Note.—Especially fine for Orange Phosphate.

No. 513.

SYRUP OF LEMON.

For Fountain.

Essential Tincture Lemon Peel.....	60 mils
Solution Citric Acid, 50%.....	120 mils
Syrup, a sufficient quantity,	

To make..... 4000 mils

No. 514.

SARSAPARILLA FLAVORING.

For Soda Syrup.

Methyl Salicylate.....	16 mils
Oil of Sassafras.....	12 mils
Oil of Anise.....	4 mils
Alcohol.....	360 mils
Distilled Water.....	120 mils

No. 515.

SARSAPARILLA SYRUP.

For Soda Water.

Sarsaparilla Flavoring.....	50 mils
Caramel.....	10 mils
Syrup, a sufficient quantity,	

To make..... 4000 mils

No. 516.

CRANBERRY ICE.

Cranberries.....	2000 mils
Water.....	2000 mils
Sugar.....	1000 mils
Juice of 1 Lemon.....	
Gelatin.....	15 Gm.

Note: Cranberries are cooked in water until soft, then strained and sugar added.

No. 517.

PINEAPPLE FRUIT ICE.

Grated Pineapple.....	1000 mils
Water.....	2000 mils
Syrup.....	1000 mils
Juice of 2 Lemons.....	
Gelatin.....	15 Gm

No. 518.

STRAWBERRY FRUIT ICE.

Fresh Strawberries.....	3000 mils
Water.....	750 mils
Sugar.....	750 mils
Juice of 3 Lemons.....	

No. 519.

RASPBERRY FRUIT ICE.

Raspberries, fresh.....	3000 mils
Water.....	750 mils
Sugar.....	750 mils
Juice of 3 Lemons.....	

No. 520.

GRAPE ICE.

Grape Juice, unfermented.....	1000 mils
Water.....	1500 mils
Syrup.....	1000 mils
Orange Juice.....	250 mils
Lemon Juice.....	125 mils

No. 521.

LEMON SHERBET.

Milk.....	3500 mils
Sugar.....	1000 mils
Lemon Juice.....	135 mils

No. 522.

LEMON ICE.

Lemon Juice.....	600 mils
Syrup.....	2000 mils
Water.....	1500 mils
Essential Tincture Lemon.....	30 mils
Gelatin.....	15 Gm.

No. 523.

ORANGE FRUIT ICE.

Orange Juice.....	1000 mils
Syrup.....	1000 mils
Water.....	2000 mils
Essential Tincture Orange.....	30 mils

No. 524.

CHERRY FRUIT ICE.

Red Cherry Juice.....	3000 mils
Water.....	500 mils
Sugar.....	1000 mils
Juice of 2 Lemons.....	1000 mils

No. 525.

MIXED FRUIT ICE.

Orange Juice.....	750 mils
Lemon Juice.....	250 mils
Pineapple Juice.....	1000 mils
Water.....	1000 mils
Syrup.....	1000 mils
3 Bananas (washed through sieve).	

No. 526.

PEACH SURPRISE.

Peaches, peeled and mashed.....	1000 mils
Sugar.....	250 mils

Water.....	500 mils
Add the beaten whites of 3 eggs. Freeze as any ice till quite stiff.	

No. 527.

MAPLE ICE CREAM.

Cream.....	3500 mils
Sugar.....	750 mils
Mapeline.....	16 mils
Gelatin.....	15 Gm.

No. 528.

NEW YORK ICE CREAM.

Cream.....	3500 mils
Sugar.....	625 mils
Extract Vanillin.....	60 mils
Gelatin.....	15 Gm.
Egg Yolks.....	12

No. 529.

CHERRY SHERBET.

Milk.....	3500 mils
Sugar.....	500 mils
Red Cherry Juice.....	250 mils
Spirit of Almond, U. S. P.....	10 mils
Essential Tincture Orange.....	8 mils
Extract Vanillin.....	120 mils
Solution Citric Acid, 50%.....	45 mils

No. 530.

CHERRY ICE CREAM.

Cream.....	3500 mils
Sugar.....	500 mils
Red Cherry Juice.....	250 mils
Spirit of Almond, U. S. P.....	10 mils
Gelatin.....	15 Gm.

Coloring to suit.

No. 531.

PISTACHIO ICE CREAM.

Chopped blanched Pistachio Nuts....	500 Gm.
Spirit of Almond, U. S. P.....	4 mils
Sugar.....	1000 mils
Gelatin.....	15 Gm.
Cream.....	3500 mils

Color green.

No. 532.

CHOCOLATE ICE CREAM.

Cream.....	3500 mils
Chocolate or Cocoa.....	180 Gm.
Sugar.....	750 mils
Extract Vanillin.....	60 mils
Gelatin.....	15 Gm.

No. 533.

PEACH ICE CREAM.

Fresh Peach Pulp.....	1000 mils
Cream.....	2750 mils
Sugar.....	750 mils
Gelatin.....	15 Gm.
Juice of 3 Lemons.....	

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

CINCINNATI.

The March meeting of the Cincinnati Branch A. Ph. A. proved to be a very enjoyable and instructive session. After disposing of the routine business of the Association, President J. C. Otis introduced the first speaker of the evening, Mr. Benedict Salkover, who presented an exhaustive discourse of "Statistics on Dyes," saying the object of his paper was not to present anything original, but rather to bring home a few facts concerning products, which play such a tremendous rôle in the commercial and scientific American world of to-day. When coal undergoes destructive distillation in coke ovens or gas retorts, the average products are: Coke 72 percent, gas 22 percent, tar 6 percent. This tar contains some 155 different chemical compounds, none of which are dyestuffs. They are benzol, toluol, xylol, phenol, cresol, naphthalene, anthracene, methyl anthracene, phenanthrene, and carbazol, the latter being a constituent of anthracene. The crude gas given off on distillation contains the first three to some extent. Special purifiers have been devised for their removal and separation. The ten substances enumerated form 6 percent to 12 percent of the coal tar, the amounts present varying with the character of the distillation. The ten crude coal-tar products are separated from one another and from the great variety of carbon compounds accompanying them in the tar by fractional distillation.

From these ten so-called "crudes," the chemist prepares nearly three hundred so-called "intermediates," compounds that are not dyes but are capable of being converted into coloring matters. A number of these "intermediates" are used also in the manufacture of medicinal preparations and photographic chemicals. Leading intermediates are: Aniline oil and salts, pure aniline and toluidine, nitrobenzol, phthalic acid, salicylic acid,

resorcinol, etc. These are really the raw materials from which about nine hundred different dyestuffs may be obtained. In a general way, regarding value, the average intermediate sells for five times the cost of the crude, and the average finished dye for ten times as much as the average intermediate.

The lecturer described a number of different processes employed in the manufacture of dyes, and gave many statistics and causes for the shortage of dyestuffs at the present time. He was warmly thanked for his interesting discourse.

Dr. E. P. Zenner, the next speaker, presented a highly instructive lecture, profusely illustrated with lantern slides, the subject being "Bacterial Vaccines." An abstract of this interesting lecture may be of interest. The subject of immunity is being studied as never before by the brightest minds in the medical profession, since it is recognized as the most important and perplexing question in the whole realm of medicine. With study and experiment our actual knowledge becomes greater, yet in reality our knowledge becomes less. This paradox is explained by the fact that the more we actually learn, and the further we penetrate the mysteries of infection, the greater the subject becomes and there opens before our vision a wide field, concerning which we realize that we have actually learned little. We know that various forms of microorganisms exist everywhere. The human animal is constantly and invariably the host of a great variety of germs, many of which possess the power of causing disease. If nature had not provided a method of combating the action of pathogenic microorganisms, the human race would have long since ceased to exist, our ancestors would have died long ago. That this is not the case is apparent to everyone and the explanation of this fact is found in the phenomenon of immunity, which is the power of resisting the action of

disease-producing germs. Immunity is a relative term, since all persons are not equally immune, or do not possess in the same degree the power of resisting infection. By "natural" immunity we mean that the body possesses a sufficient degree of resistance so that the disease-producing germs, which it harbors, either all the time or occasionally, are unable to make it succumb. By "acquired" immunity we mean that the body did not naturally possess sufficient resistance to successfully combat infection, but it was added or developed in the body in the necessary amount by use of certain measures. An example of natural immunity is found in tuberculosis, a most wide-spread disease, in fact, some authorities claim that every human being at some time during his life has been infected with tuberculosis, which statement is fully substantiated in the autopsy room. By "active" immunity we mean that immunity is forced upon a patient by treatment which will stimulate his own immunizing powers. By "passive" immunity we mean that active immunizing material has been administered to the patient, thus overcoming the poisons excreted by the disease-producing germs, as in the injection of antidiphtheritic serum into a patient suffering from diphtheria. An example of active immunity is the administration of so-called bacterial vaccines, which may be used either in prophylactic or preventive as well as curative measures.

The term "bacterial vaccines" should not be confused with the commonly used term vaccine, the latter referring to small-pox vaccine, which is quite a different substance. A bacterial vaccine, in short, is merely a suspension in sterile salt solution of the dead bodies of the disease-producing germs. Bacterial vaccines are usually administered under the skin, sometimes, under certain circumstances, they may be injected directly into the vein. The dose is measured in terms indicating the number of dead germs in each Cc. of salt solution.

It was greatly due to the brilliant discoveries of Sir A. E. Wright, a famous physician of London, England, that the bacterial vaccine therapy was placed on a firm scientific basis, as well as the recognition of the so-called opsonic therapy. Metschnikoff introduced his so-called phagocytic theory, meaning thereby that certain of the white blood corpuscles had the power of overcoming disease-producing germs by digesting them, thus the polymorphonuclear leucocyte exhibited this power, which

fact has since been proven. Wright elaborated on this theory by assuming that the leucocytes exerted this power by the presence in the blood of a hypothetic substance, by him termed "Opsonin," a word derived from two Greek words, meaning "to prepare food for" or "to prepare for digestion." Further research has amply proven the correctness of the theories of these workers, until now the use of bacterial vaccine is universal.

Dr. Zeumer then proceeded to demonstrate by means of lantern slides and explained the essential steps in the preparation of vaccine and the determination of the opsonic index, showing in detail the technique of measuring the opsonic power of a given patient. He showed a pure culture of one of the common disease-producing germs, the staphylococcus pyogenes albus, or the white pus-producing germ, how the emulsion of the germ in salt solution is obtained by centrifugal action, how the enumeration of the bacteria in a given portion reserved for the count is done, basing the calculation upon the fact that there are given billion red corpuscles, on the average, in each Cc. of blood of the average normal individual, and finally, how the standardized suspension or "vaccine" is usually put up in glass ampoules.

Then the Doctor illustrated the determination of the opsonic index, stating that three things are required for same: 1, suspension of the disease germ in question; 2, the blood-serum (free from all corpuscles) of the patient; 3, an emulsion of the white blood corpuscles or leucocytes of the patient. In addition to these is required the blood-serum of a number of normal individuals for comparison. He showed various differently and specially constructed apparatus, such as ampoules, pipettes, pricking needles, etc., as well as the technique of handling and also administering bacterial vaccines.

Dr. Zenner's highly instructive presentation of his subject was greatly appreciated by his audience, who tendered him a rising vote of thanks. CHARLES A. APMEYER, *Secretary*.

The following officers have been elected by the Cincinnati Branch for the ensuing year: *President*, Louis Werner; *First Vice-President*, Theodore D. Wetterstroem; *Second Vice-President*, Frank H. Freericks; *Treasurer*, Julius Greyer; *Secretary*, Chas. A. Apmeyer; *Executive Committee*, C. T. P. Fennel, 3 years; Charles G. Merrell, 2 years; J. C. Otis, 1 year. *Member of the Council*, C. T. P. Fennel.

CITY OF WASHINGTON.

The business of the April meeting of the City of Washington Branch A. Ph. A. consisted in the passing of resolutions on the disposition of the Year Book and JOURNAL, and copies of these resolutions will be submitted to the secretaries of the local branches and the various committees of the Association concerned with this subject.

The remainder of the evening was devoted to an address by Dr. Alsberg, Chief of the Bureau of Chemistry, and a full report of which appears in another place in the JOURNAL.

COLUMBUS.

The February meeting of the Columbus Branch A. Ph. A. was held February 14, at the office of the Midland Publishing Company, President Topping presiding. The records of the last meeting were read and approved. Professor Dye reported progress for the Committee on Membership.

Communications were read from New York and Philadelphia Branches of the American Pharmaceutical Association in reference to the publication of the JOURNAL and Year Book. The latter Branch suggested that the yearly dues of the members be increased to compensate for an assumed deficit that might arise from the continued issuance of these publications. This suggestion met with unanimous disfavor; the opinion was freely expressed that an increase of dues was unnecessary for the proper maintenance of the Association. Resolutions were passed presenting these views, and also that the Year Book be brought up to date.

The Secretary was directed to send a letter of condolence to the widow of Frank Harrington, late member of the Columbus Branch, A. Ph. A.

Resolutions strongly favoring amendment and revision of the U. S. Patent and Trademark Laws were prepared and adopted and copies of these resolutions were ordered sent to congressmen and senators, and also to national and state pharmaceutical associations, importuning them to take similar action.

The resignation of Mr. Spease as secretary of the Branch was received and accepted, and Mr. E. C. Marshall was elected to fill the vacancy caused thereby. Mr. E. N. Webb delivered an address upon "The Mortality of Proprietary Preparations," that was interesting and instructive. At its conclusion the

president expressed the thanks of the Branch to Mr. Webb and the address was discussed by many of the members present.

NEW ENGLAND.

A meeting of the New England Branch A. Ph. A. was held at the Massachusetts College of Pharmacy on Wednesday evening, April 4, at which it was voted that it was the desire of the Branch that the publication of the Year Book be continued.

A joint meeting of the Branch with the Boston Association of Retail Druggists was held at the College of Pharmacy on April 10th, at which Mr. H. C. Lythgoe, Analyst, Massachusetts State Department of Health, spoke of the new Pharmacopoeia in its relation to the work of his department, and discussed such of the recent activities of the department as might be of interest to pharmacists.

Assistant District Attorney A. C. Webber was also present and explained in detail the provisions of the bill now before the State Legislature which aims to regulate still more carefully the sale of narcotic drugs and hypodermic needles and syringes.

HUGH C. MULDOON, *Secretary*.

NEW YORK.

The April 1917 meeting of the New York Branch of the American Pharmaceutical Association was called to order by President Mayer in the lecture hall of the New York College of Pharmacy on Monday the 9th, at 8.30 P.M.

Fifty-five members were present.

The minutes of the March meeting were read and approved.

The treasurer's report was read and accepted.

Report of the Member of Council.—Professor Hostmann read a communication from Dr. Edward Kremers deploring the fact that pharmacy seems to have been overlooked in national movements. An extract from the N. A. R. D. Bulletin No. 176 on the same general topic was also read.

It was regularly moved, seconded and carried that the Secretary be instructed to communicate with the Secretary of the National Drug Trade Conference that it was the sense of the New York Branch of the American Pharmaceutical Association that the said Conference endeavor to obtain proper recognition for pharmacy in such plans as were being devised by the Council of National Defense.

Membership Committee.—In the absence of Chairman Walter, the Secretary presented the application for membership in the parent association of Milton Eugene Rohrbach, 55 Hanson Place, Brooklyn, N. Y., and the following applications for membership in the local Branch: Charles S. Herron, 100 William St., and Horatio N. Fraser, M.D., 5 East 47th St., both of New York.

The Secretary was directed to follow the usual course with regard to these applications.

Legislation and Education.—Chairman Mayo read an exhaustive report on a number of bills now pending. The report was ordered accepted.

Fraternal Relations.—Chairman Diner reported that since no committee has as yet been appointed by the County Medical Society, he had nothing to report.

Progress of Pharmacy.—Chairman Diekman read a number of interesting abstracts on the following subjects: "Manufacture of Quebracho in Argentine and Paraguay;" "Artificial Seasoning of Wood;" "Aqueous Solution of Mercurous Acetate;" "Method of Estimation of Nicotine in Tobacco;" "Impure Reagents;" "Production of Burmah Cutch;" "Concrete Experiments;" "Alkaloidal Reactions."

Considerable discussion followed the reading of this report, which was ordered accepted.

Special Committee.—Dr. Diner, Chairman of the Alpers Memorial Committee, submitted the following resolutions:

WHEREAS, It has pleased the Almighty Architect of the Universe to gather unto Him our late brother and esteemed fellow member, William C. Alpers, and

WHEREAS, We have thereby been deprived of an ardent worker and a true exponent of Professional Pharmacy, therefore be it

Resolved, That we, the members of the New York Branch of the American Pharmaceutical Association, deeply feel the loss that we have sustained, and be it further

Resolved, That a copy of these resolutions be made a part of the minutes of this Branch and that a further copy be sent to the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION for publication therein.

This report was accepted and the Secretary ordered to send a copy to the family of the deceased, after which the committee was discharged with the thanks of the Board.

Communications.—Communications from

the Montana Branch, the Washington Branch, Mr. Hilton, President Wulling, General Secretary Day, Mr. Stockberger, Professor Remington and Mr. Main were read by the Secretary and ordered filed.

New Business.—A very interesting paper on "The Pharmaceuticals of the New Pharmacopoeia" was read by Dr. J. Leon Lascoff. The paper was augmented by a large exhibit of U. S. P. galenicals. A number of very interesting points were brought out.

The discussion following the reading of this paper was led by Professor Cook, of Philadelphia. He described the enormous amount of work done in preparing the new Pharmacopoeia and answered some of the criticisms in Dr. Lascoff's paper. Professor LaWall supplemented Professor Cook's explanation and cited some unique tests, etc., found in the text of the Ninth Revision. Considerable further discussion followed.

Upon motion, a rising vote of thanks was tendered the speakers.

Mr. Mayo reported the death of Professor Louis Diehl and moved that a committee be appointed to draw up suitable resolutions.

On this committee President Mayer appointed Mr. Mayo, Chairman, Professor Raubenheimer, and Professor Anderson.

Dr. Lascoff reported the death of Professor George Ferguson, and President Mayer appointed the following to serve on a committee to draw up suitable resolutions: Dr. Lascoff, Chairman: Dr. Diner and Professor Diekman.

HUGO H. SCHAEFER, *Secretary*.

NASHVILLE.

The regular monthly meeting of the Nashville Branch of the American Pharmaceutical Association was held in joint session with the Nashville Drug Club on April 19th, with Dr. J. O. Burge presiding.

The minutes of the previous meeting were read and approved; D. S. Sanders made the report of the committee appointed at the last meeting to confer with the Retail Grocers' Association and the Retail Furniture Dealers' Association against the unfair competition carried on by various mail order houses without the payment of taxes. The coöperation of these three bodies was assured and a joint committee appointed to visit the Retail Merchants' Association in an effort to secure their aid. He stated that the Larkin Company had already expressed their intention of testing the constitutionality of the Ten-

nessee laws. A motion was passed commending the stand taken by the Butterick Publishing Co. in refusing to take further advertising from mail order houses.

C. S. Martin reported on the six laws, regulating the sale of liquors, which were passed by the last legislature. He called especial attention to the provisions of the Drug Store Alcohol Bill, a companion bill to the Bone Dry Law, which becomes effective May 1. This bill requires that the druggist keep a complete record of all alcohol and wine received and dispensed, and imposes a tax of \$30 annually if these are dispensed without being in combination with other medicines. It also requires that physicians write prescriptions, calling for alcohol or wine alone, in triplicate, one copy to be sent to the druggist, one to the pure food inspector, and the other to be filed in the physician's office. The licenses of druggists and physicians will be revoked on the second violation of this law and a fine and sentence may also be imposed. Under this law, ministers and priests who buy wine for sacramental purposes are required to take an oath to that effect. Ira B. Clark, S. C. Davis, D. S. Sanders, J. B. Sand and D. J. Kuhn were appointed as a committee to meet with the Pure Food Commissioner and Attorney General to draw up regulations for its enforcement.

Dr. J. O. Burge presented a paper giving formulas for denaturing alcohol, which have been approved by the Government.

WILLIAM R. WHITE, *Secretary*.

PHILADELPHIA.

The regular monthly meeting of the Philadelphia Branch A. Ph. A. was held Tuesday evening, April 15th, at the Philadelphia College of Pharmacy, with the new President, Ambrose Hunsberger, in the chair.

Subsequent to the transaction of routine business the Secretary read a communication from the New York Branch A. Ph. A., being the report of an inquiry made by a special committee of that body into the matters pertaining to the financial affairs of the Association and further consideration of the Year Book and JOURNAL affairs, with suggestions for overcoming the probable deficit in the Association's publications. This report, impartial and carefully written, was well received by the local branch, and a motion was offered and subsequently adopted "that, in view of the great care and evident fairness demonstrated

in the report of the New York Branch's Special Committee, a committee of three be appointed by the President to further consider said report and resolutions, and who shall report their findings to the branch at a later date." The following committee was subsequently appointed by the chairman: C. H. LaWall, *Chairman*; R. P. Fischelis, F. M. Apple. Then on motion of R. P. Fischelis, seconded by C. H. LaWall, a set of resolutions was unanimously adopted by the Branch whereby the services of the body were unqualifiedly placed at the disposal of the Federal Government. The motion also embodied instruction to forward copies of the resolutions to President Wilson, Governor Brumbaugh and Mayor Smith (Philadelphia). A committee was appointed to consider means of taking further action in the matter. The following gentlemen were appointed to serve on the committee: C. H. LaWall, J. K. Thum, Henry Kraemer, R. P. Fischelis and S. C. Henry.

The following resolutions were adopted:

WHEREAS, The present crisis in the affairs of Our Country demands the most efficient coöperation of its citizens with the officials who are in charge of mobilizing the Nation's resources; be it

Resolved, That the Philadelphia Branch of the American Pharmaceutical Association express its desire to coöperate to the fullest extent with the proper authorities in determining how its members can best serve the Country in its hour of need. And be it further

Resolved, That a committee consisting of the President of the Branch as chairman and five other members of the Branch be appointed to act in an official capacity for the Branch in the matter of conferring with the proper authorities as to ways and means of utilizing the pharmacists' facilities; and be it further

Resolved, That allied pharmaceutical bodies be apprised of the action of the Philadelphia Branch and urged to coöperate in order that there may be no unnecessary delay in making the movement national in scope; and be it further

Resolved, That copies of these resolutions be sent to President Wilson, Governor Brumbaugh and Mayor Smith, of Philadelphia.

IVOR GRIFFITH, *Secretary*.

The evening's scientific program was opened, with an exceedingly interesting paper presented by L. Wayne Army, director of the

Mulford Drug Gardens on "The American Crude Drug Industry." The speaker, from experience in drug culture, stated that the growing of drug plants offered no great inducement to amateur gardeners or horticulturists, especially from a financial standpoint. Most of the fortunes, pictured in several contributions to the press, which were to fall to the successful American drug grower, existed only in the minds of the writers. Contrary to popular opinion, little has been accomplished, according to the speaker, on the line of increasing the alkaloidal strength of drug plants, by intensive culture or careful hybridization. The success gained was accomplished by selective methods, consisting of propagation of the select seeds or plants in each crop.

The slides shown by Dr. Arny afforded little consolation to the amateur gardner who would start a "drug farm" in a city lot, for the wide

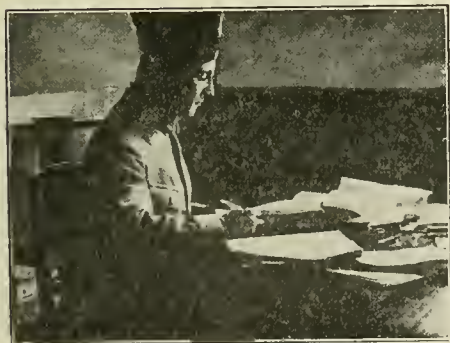
fields of belladonna, cannabis and other drugs were possible only after much scientific study and constant experimentation.

Dr. Arny's able presentation was discussed by Prof. LaWall, Dr. Fischelis and others.

Apothecary Thum, of the German Hospital, then presented a paper on "The Carrel-Dakin Solution." He stated that on one occasion a surgeon failed to obtain any result at all from the use of a Dakin solution which had been prepared at a pharmacy (?) close at hand and submitted the solution to him for analysis. No trace of hypochlorite was found and consultation with the compounder elicited the information that the solution had been prepared from calcium chloride and not from chlorinated lime.

Discussion of the paper was participated in by Messrs. Gershenfeld, LaWall, Fischelis, Apple and others.

IVOR GRIFFITH, *Secretary*.



DR. ALEXIS CARREL at work.—Courtesy of *World's Work*.



MADAME CARREL. The cut shows the application of the Carrel-Dakin Solution.

COUNCIL BUSINESS

A. PH. A. COUNCIL LETTER NO. 16.

PHILADELPHIA, PA., February 13, 1917.

To the Members of the Council:

At the meeting of the Baltimore Branch held January 24, 1917, Hermann Engelhardt was elected Council Representative from the Branch, succeeding H. P. Hynson.

The Committee on M. I. Wilbert Resolutions report as follows:

MARTIN INVENTIUS WILBERT.

By unanimous vote of the Council of the American Pharmaceutical Association, a resolution was passed appointing S. L. Hilton, F. E. Stewart and H. V. Arny a committee to draft suitable resolutions upon the death of Martin Inventius Wilbert, who for many years has been one of the bright lights in American Pharmacy, a prominent member of the American Pharmaceutical Association, an active and exceedingly useful and valuable member of its Council and of various committees of the Association and no doubt the strongest link between medicine and pharmacy in this country.

He was a man of pleasing manner, kindly expression and a good sense of humor, taking defeat cheerfully and always ready to press on with added vigor and make the best of failure.

WHEREAS, By the will of Divine Providence, our devoted friend and fellow co-worker, Martin Inventius Wilbert, has been taken from our midst in the prime of life and at a time when his counsel and advice were so valuable, and

WHEREAS, We, the members of the Council of the American Pharmaceutical Association, deeply feel the sad loss of such a staunch friend, a capable, willing and talented worker for the betterment and advancement of pharmacy, devoid of selfish interest, always sacrificing self for the good and betterment of his fellowman, and a persistent thinker and worker to place pharmacy on the highest plane possible. Nowhere did his mind work with such full consciousness of its power as on occasions when he had the opportunity to espouse the cause of true ethical pharmacy and uphold his high ideals. And

WHEREAS, We further wish to acquaint his friends and family of the high regard in which he was held and the great loss which we feel

the pharmaceutical profession has sustained through his sudden demise, now therefore be it

Resolved, That we give expression of our deep heartfelt sorrow at his untimely death, our high appreciation of the many sterling qualities that bound him to us on all occasions and at all times and our sincere sympathy to his family and to all those that mourn his loss, and be it further

Resolved, That a copy of these resolutions be spread upon the records of the Council of the American Pharmaceutical Association and that a copy of the same be forwarded to his widow.

S. L. HILTON, *Chairman*.

F. E. STEWART,

H. V. ARNY.

J. W. ENGLAND,
Secretary of the Council.

415 N. 33RD ST.

A. PH. A. COUNCIL LETTER NO. 17.

PHILADELPHIA, PA., February 22, 1917.

To the Members of the Council:

The Council of the American Pharmaceutical Association is advised of the demise of one of its members—Ex-President William Charles Alpers, of Cleveland, Ohio. He died on Tuesday, February 20, 1917, after a prolonged illness following an operation.

J. W. ENGLAND,
Secretary.

415 N. 33RD ST.

A. PH. A. COUNCIL LETTER NO. 18.

PHILADELPHIA, PA., March 12, 1917.

To the Members of the Council:

Motion No. 22 (Election of Members; applications Nos. 76 to 102 inclusive) has received a majority of affirmative votes.

Lucius E. Sayre writes: "It is with deep regret that I learn from Council Letter No. 17 of the death of our brother Alpers. My heartfelt sympathy goes out to his family and for those who knew his value to the profession of pharmacy. My feeling of sorrow is jointed with the suffering ones to whom he was so near and dear and to those who appreciated his real worth."

Motion No. 23 (Appropriation of \$100 for National Drug Trade Conference). Moved by J. A. Koch, seconded by W. B. Day, that an

additional \$100 be appropriated for the National Drug Trade Conference.

The appropriation has been approved by the Committee on Finance.

Motion No. 24 (Election of Members). The following applications have been presented:

- No. 103. Chris Lyndrup, 32 Adams Ave., W., Detroit, Mich., rec. by Leonard A. Seltzer and A. A. Wheeler.
- No. 104. Maxwell S. Moore, Box 333, Big Rapids, Mich., rec. by A. A. Wheeler and Leonard A. Seltzer.
- No. 105. Alexander M. Rovin, 3334 Jefferson St., E., Detroit, Mich., rec. by Leonard A. Seltzer and A. A. Wheeler.
- No. 106. George H. Perkins, 50 Water St., North Andover, Mass., rec. by Wm. H. Glover and Theodore J. Bradley.
- No. 107. Irvin Miles Slepicka, 5026 W. 22nd Place, Cicero, Ill., rec. by W. B. Day and E. N. Gathercoal.
- No. 108. Julius Fischer Earnest, 501 14th St., Denver, Col., rec. by F. W. Nitardy and R. H. McKenzie.
- No. 109. Earl Gordon Johnson, Tonkawa, Okla., rec. by Charles H. Stocking and J. O. Schlotterbeck.
- No. 110. Charles Green, 831 W. Polk St., Chicago, Ill., rec. by Charles C. Orr and E. N. Gathercoal.
- No. 111. Irvan E. Taylor, 709 E. 62nd St., Board Ripple, Ind., rec. by C. E. Lawson and Francis E. Bibbins.
- No. 112. Leroy Dey Swingle, 1448 Gilmer Ave., Salt Lake City, Utah, rec. by Charles E. Mollet and C. V. Valentine.
- No. 113. Henry Cook Richards, 800 Broadway, New Orleans, La., rec. by R. F. Grace and Henry Welsch.
- No. 114. Arthur F. Brown, 219 N. Senate Ave., care Swan-Meyer Co., Indianapolis, Ind., rec. by J. W. England and H. I. Parmelee.
- No. 115. Ralph Robert Hoffer, 2232 W. Jefferson Ave., Detroit, Mich., rec. by A. A. Wheeler and Leonard A. Seltzer.
- No. 116. Manuel Preciado, Ph.G., Central Ave., cor. 8th St., Panama, Rep. of Panama, rec. by W. B. Day and Bolivar Jurado.
- No. 117. Jack D. Bercoitch, 917 14th Ave., Minneapolis, Minn., rec. by W. B. Day and E. A. Tupper.

- No. 118. M. G. Johnson, Fulda, Minn., rec. by Chas. H. Rogers and Frederick J. Wulling.
 - No. 119. Herbert A. Strate, 700 E. 5th St., St. Paul, Minn., rec. by Chas. H. Rogers and Frederick J. Wulling.
 - No. 120. John William Dargavel, Morristown, Minn., rec. by Chas. H. Rogers and E. L. Newcomb.
 - No. 121. Joseph Vodheim, Tyler, Minn., rec. by Chas. H. Rogers and Frederick J. Wulling.
 - No. 122. Armand Joseph Dellande, Hammond, La., rec. by Philip Asher and H. M. Whelpley.
 - No. 123. Ernest Atkins Wildman, 620 E. 21st St., Indianapolis, Ind., rec. by Frank R. Eldred and F. A. Federer.
- J. W. ENGLAND,
Secretary of the Council.

415 N. 33RD ST.

A. PH. A. COUNCIL LETTER NO. 19.

PHILADELPHIA, PA., March 21, 1917.

To the Members of the Council:

In Council Letter No. 15 (February 9, 1917) a tentative program for the Sixty-fifth annual meeting of the American Pharmaceutical Association to be held at Indianapolis during the week of August 27 to September 1, 1917, was submitted by the Committee on Program and suggestions invited.

The program as finally revised is now submitted, as follows:

PROGRAM FOR 1917 ANNUAL MEETING.

Monday, August 27.

9.30 A.M.—National Association Boards of Pharmacy.

2.00 P.M.—National Association Boards of Pharmacy.

8.00 P.M.—National Association Boards of Pharmacy.

American Conference of Pharmaceutical Faculties.

Tuesday, August 28.

9.30 A.M.—National Association Boards of Pharmacy.

American Conference of Pharmaceutical Faculties.

2.00 P.M.—American Conference of Pharmaceutical Faculties.

Excursions to Industrial Plants.

7.00 P.M.—Meeting of the Council.

8.00 P.M.—First General Session.

Meeting of Committee on Nominations.

Wednesday, August 29.

9.30 A.M.—Scientific Section.

Commercial Section.

Women's Section.

2.00 P.M.—Practical Pharmacy and Dispensing
(Pharmacopoeias, Formularies
and Standards).

Section on Education and Legisla-
tion.

4.00 P.M.—House of Delegates.

7.00 P.M.—Meeting of the Council.

8.30 P.M.—President's Reception.

Thursday, August 30.

9.30 A.M.—Scientific Section.

Commercial Section.

Practical Pharmacy and Dispensing
(Pharmacopoeias, Formularies
and Standards).

12.30 P.M.—Luncheons of College Alumni.

2.30 P.M.—Second General Session.

4.00 P.M.—House of Delegates.

7.00 P.M.—Meeting of the Council.

Friday, August 31.

9.30 A.M.—Scientific Section.

Section on Education and Legisla-
tion.

Historical Section.

2.00 P.M.—Practical Pharmacy and Dispensing
(Pharmacopoeias, Formularies
and Standards).

Women's Section.

Joint Session of Section on Educa-
tion and Legislation, A. C. P. F.
and N. A. B. P.

4.00 P.M.—Meeting of the Council (Reorgani-
zation).

Saturday, September 1.

9.00 A.M.—Meeting of the Council.

10.00 A.M.—Final General Session.

Do you approve the above program? This will be regarded as *Motion No. 25 (Approval of Program for 1917 Annual Meeting)*.

Motion No. 26 (Appropriation of \$2000 to National Formulary IV Account). Moved by J. A. Koch, seconded by W. B. Day, that \$2000 be appropriated to the National Formulary IV Account with which to pay bills for the National Formulary IV.

The appropriation is approved by the Committee on Finance. Sufficient funds have been received from the sale of the book (N. F. IV) this year to make the appropriation without using the general receipts.

J. W. ENGLAND,
Secretary of the Council.

415 N. 33RD ST.

A. PH. A. COUNCIL LETTER NO. 20.

PHILADELPHIA, PA., April 2, 1917.

To the Members of the Council:

Motion No. 23 (Appropriation of \$100 for National Drug Trade Conference), No. 24 (*Election of Members, applications Nos. 103 to 123, inclusive*), No. 25 (*Approval of Program for 1917 Annual Meeting*) and No. 26 (*Appropriation of \$2000 to the National Formulary IV Account*), have each received a majority of affirmative votes.

General Secretary Day writes: "By reason of the death of Martin I. Wilbert, there is a vacancy on the Commission of Proprietary Medicines and I wish to move the election of W. H. Cousins, of Dallas, Texas, to fill this vacancy. Professor Snow seconds this motion.

The election of Mr. Cousins will be acceptable to the Chairman, Dr. Beal, and I believe that he will make a very serviceable member of this committee."

Motion No. 27 (Election of Walter H. Cousins as Member of Commission of Proprietary Medicines). Moved by W. B. Day, seconded by Clyde M. Snow, that Walter H. Cousins, of Dallas, Texas, be elected to fill the vacancy of membership on the Commission of Proprietary Medicines caused by the death of Martin I. Wilbert.

The following communications have been received:

MADISON, WISCONSIN, March 27, 1917.

To the Members of the Council of the American Pharmaceutical Association:

Gentlemen: Ten years ago or thereabouts I addressed a communication to your predecessors in office calling attention to the "Committee of One Hundred," organized by Professor Fisher, of Yale, for the purpose of starting a movement looking toward the establishment of a Department of Health and Sanitation with a cabinet position in Washington. I pointed out at the time that whereas a large number of the Committee were physicians, all professions—law, the ministry, economics and sociology—were represented, but pharmacy was not, and so far as I am aware, is still conspicuous by its absence.

To-day I desire to call your attention to the continuation of this tendency to ignore pharmacy. The March 16th number of *Science* contains the list of "Committees of the National Research Council" appointed by the National Academy of Sciences, the scientific advisor of the Government. We naturally

expect the Military Committee to head the list, but we wonder about any practical usefulness of pharmacy when even so remote a sphere as astronomy is supposed to contribute toward our national preparedness. Either the National Academy of Sciences must anticipate miracles from our pharmaceutical manufacturers in the case of war or it has overlooked pharmacy.

The next weekly issue of *Science* (for March 23, 1917), contains an appeal for "An Institute for the History of Science and Civilization." Among the list of promoters one again looks in vain for the name of a single pharmacist. No doubt every science, every learned profession resting on science is represented, but what about pharmacy?

It is far from me to suggest that the American Pharmaceutical Association appeal to the National Academy of Science or to any other organization or person for recognition. All that I wish to point out is that the emphasis of commercial pharmacy, while it may place a dollar in our pockets to-day, is ruining our future as a calling. Not only are we ignored in the national movements referred to, but we are losing locally. Fifteen years ago, the food and dairy commissions took over part of the duties of our state boards of pharmacy and thereby deprived our calling of so much home rule. To-day the state boards of health are ready to take over what little self government remains.

Our state boards were told twenty years ago that unless they made a serious business of drug store inspection, this aspect of self government would be turned over to our food and dairy commissions. For some years past they have been warned that the tendency to concentrate state commissions and related offices would affect them and that they should get ready to take a leading part in this constructive movement. They have heeded neither warning and are now facing control by the medical profession as well as food and dairy commissions.

The situation which we are confronting is a serious one. "What of the future of Pharmacy?" I was asked only the other day by a representative of the Government. Yes, what of it? What is the American Pharmaceutical Association doing in answer to this question?

Respectfully yours,

EDWARD KREMERS.

WASHINGTON, D. C., March 29, 1917.

To the Chairman of the Council, A. Ph. A.:

Dear Sir: Mr. Frederick L. Lewton, Acting Curator, Division of Medicine, United States National Museum, presented a paper at the January meeting of the "City of Washington Branch of the A. Ph. A.," entitled "The Opportunity for Developing Historical Pharmacy Collections at the National Museum," which paper has been published in the March issue of the *JOURNAL*, p. 259, and deserves the consideration of every member of the Association.

Mr. Lewton points out that there is now an opportunity to collect, preserve and exhibit in a fire-proof building, where thousands of people of all classes and inclinations are constantly visiting every year, the many unique and unreplaceable objects connected with the beginning and early history of pharmacy in the United States.

After a full and free discussion, it was unanimously voted that a committee be appointed, of which I was made chairman, to take up this question with the Council and the Section on Historical Pharmacy of the American Pharmaceutical Association, with the object in view of placing all material of a historical nature in the possession of the Association on exhibition in the National Museum.

The question of establishing a pharmaceutical exhibit or museum for housing historical collections and to cooperate with the National Museum is by no means new to the Association.

The records show much correspondence and many previous endeavors have heretofore been made looking to this end, but without results, for the reason that the National Museum was then and until very recently very much overcrowded and no space available.

With the new building recently completed and occupied by the Natural History Collections, space is now available in the older building and the Acting Curator as well as the Assistant Secretary in charge of the National Museum are more than anxious to take up this question with the American Pharmaceutical Association, looking forward to establishing such a collection and placing same on exhibition, in so far as the space available will permit.

Let me cite that in the Fall of 1904, Prof. Kremers, the Chairman of the Historical Section, brought to the attention of Secretary Walcott this question, with special reference to the Dr. Hoffman collection, and much correspondence ensued. Again in 1905, Prof.

Kremers took up the subject with reference to the Maisch collection, later Dr. Murray Galt Motter, as Chairman of the Proposed Pharmaceutical Collections at Washington of the A. Ph. A., brought the matter to the attention of the Assistant Secretary, in charge of the Museum, this was in 1909; this was followed up by Dr. Motter in 1910, while the Assistant Secretary at that time could not say anything definitely, owing to the delay in the completion of the new building, he reported that the matter had not been lost sight of and that as soon as space was available he would give the question careful consideration. The time has now arrived, opportunity is now offered, and it is the duty of our Association to lend its support and assistance in placing an exhibit of historical interest in the National Museum as previously contemplated, under ideal conditions, in a fire-proof building and properly cared for instead of as at present stored where they are not available, receiving no attention whatever and will soon go to pieces and become worthless, it would be a shame for us not to take advantage of the opportunity now offered to preserve permanently the many objects of value in the possession of the Association.

Will you therefore then kindly bring this matter before the officers and the Council, with the hopes that a unanimous decision can be reached to place all matter of historical interest in the possession of the Association in the National Museum at an early date?

Respectfully submitted,

S. L. HILTON, *Chairman.*

J. W. ENGLAND,

Secretary of the Council.

415 N. THIRTY-THIRD ST.

A. PH. A. COUNCIL LETTER NO. 21.

PHILADELPHIA, PA., April 21, 1917.

To the Members of the Council:

Gentlemen: In the present national crisis, it is most desirable that the American Pharmaceutical Association tender its services to the Government, and President Wulling has sent the following message:

MINNEAPOLIS, MINN., April 18, 1917.

His Excellency,

PRESIDENT WILSON,

Washington, D. C.:

Mr. President: As President of the American Pharmaceutical Association, and with the concurrence of Mr. Lewis C. Hopp, Cleveland,

Ohio, Chairman of the Council of the Association, I hereby pledge the loyal support of the Association and tender to you and the Government such services as the Association can give in the present crisis of the Country.

Many of the members of the Association have already offered their individual services, but the Association may be able to give a service as an organization. It is ready and willing to help the Country in any way it can and holds itself in readiness to be advised by you or by your orders.

Respectfully yours,

F. J. WULLING,

President, A. Ph. A.

The efficiency of pharmaceutical service depends upon its recognition and responsibilities, and in this connection, President Wulling has written as follows:

MINNEAPOLIS, MINN., April 17, 1917.

THE HONORABLE SECRETARY OF WAR,
Washington, D. C.:

My Dear Secretary: It appears that pharmacy has no adequate representation in the Army and Navy and that no representation has been accorded it on the Council for National Defense. Medicine is strongly represented. Medicine is not pharmacy, nor does it include pharmacy as evidenced by the existence of the separate pharmaceutical profession. National defense without adequate pharmaceutical representation and recognition can never be as effective as it can be with pharmaceutical participation under a proper standard of recognition. Medical men are not pharmacists and, as far as I know, do not claim to be. They cannot any more give expert pharmaceutical service than pharmacists can give medical or surgical service. In the failure to recognize and employ the expert pharmaceutical services available, the defense falls short in that degree, as I see it. It is fallacious to claim that pharmaceutical service in war or peace is negligible or of so low a grade that it shall be a handmaiden to any other division of the service.

The Council for National Defense has appointed a committee, of which your esteemed self is chairman, to effect, among other things, a practical standardization of pharmaceutical supplies. Who is as competent as a highly trained expert pharmacist to direct this standardization and other purely pharmaceutical activities? Unless this kind of work is under the direction or responsible par-

ticipation of such a pharmacist, the country is deprived of the best kind of service in this field and yet it is entitled to the very best that the country affords. This kind of expert service is freely at hand and available, and, as president of the American Pharmaceutical Association, I respectfully request and urge that it be employed. I feel that if I did not make this request and make it with the fullest strength of whatever influence my office carries, I would not be doing my duty to my country not to speak of my duty to my calling.

It should be considered that in a crisis such as this country finds itself in at the present time, it is unwise to risk the possible displeasure of so large a part of the representative citizens as pharmacists constitute. There are probably in excess of 500,000 persons engaged in pharmaceutical activities. These are represented in a large measure by a number of strong national and state associations—among them the American Pharmaceutical Association, The National Association of Retail Druggists, The American Conference of Pharmaceutical Faculties, The National Wholesale Druggists' Association, The American Drug Manufacturers, The Drug Trade Conference, the several state associations and others. The good will in the fullest measure of all these is essential. I do not maintain that these interests would withhold their good will if not given deserved recognition and the opportunity to serve in their fullest capacity, but I do maintain that proper recognition would greatly stimulate and augment their help and loyal support.

Permit me to further direct attention to the unfortunate fact that the United States has not a pharmaceutical corps for the control and direction of medical and pharmaceutical supplies service such as all other great countries, except Great Britain and Russia, have. In each of these larger countries a corps of highly trained pharmacists with commissioned rank has the medical and pharmaceutical supply service in its hands. The head of this service in Germany is of the rank of Colonel; in Japan, of the rank of Lieutenant-Colonel; in Italy and France, of the rank of Major-General. These officers are experienced pharmaceutical chemists of high attainments and qualifications, capable of directing their respective service. Our own country contains many such men who are at least as capable, if not more so, for this kind of service as a surgeon could possibly be. That American pharmacy is not represented in the country's

service in the form of a pharmaceutical corps composed of men equal in rank with those in the medical service is undoubtedly due to the fact that American pharmacy has not exerted that pressure for this merited recognition and opportunity to serve under its own responsibility and standard that it is capable of. Much dissatisfaction in this respect on the part of representative pharmacists in all divisions of the calling has been reported to me recently. It is my opinion that the country cannot afford to continue to ignore American pharmacy as it has done in the past.

In my humble opinion, if the post of Chief Medical Purveyor is not already in existence, it ought to be created and put in charge of an expert pharmaceutical chemist of administrative ability. Such a one should be clothed with ample authority and should be of the rank of Brigadier-General of Volunteers or at least of the rank of Colonel. The importance of the medical and pharmaceutical supply service can hardly be exaggerated. The Hospital Steward of the present should not be confounded with the highly trained pharmaceutical chemist of administrative capacity I have in mind. Our late war with Spain demonstrated the utter inadequacy and futility of methods then in use of the purchase, manufacture and distribution of pharmaceutical and medical supplies.

In writing you thus I know that I am representing American pharmacy at large, but of course I have only the authority vested in the office I hold to speak for the American Pharmaceutical Association.

In this letter I mean no disrespect to anyone. What I have said and urged grows out of my loyalty to the country and the cause it is championing.

With assurances of highest esteem, I am,

Very respectfully yours,

FREDERICK J. WULLING,

President A. Ph. A.

In connection with the subject of pharmaceutical representation in the Council of National Defense, President Wulling has written Mr. Charles M. Woodruff, Secretary of the National Drug Trade Conference (which is to hold a special session at Washington, D. C., on May 1, 1917), asking this body to take up the question and also the question of a better status for pharmacists in the Government service.

Prompt action is most essential. The medical resources of the country have been organ-

ized into a specialized unit and pharmacy must do the same or suffer. Chairman Hopp and President Wulling have therefore appointed the following Committee on National Defense: S. L. Hilton, Chairman; James H. Beal, J. W. England, Lewis C. Hopp, Caswell A. Mayo, Joseph P. Remington, H. H. Rusby, Dr. F. E. Stewart and Henry M. Whelpley.

In view of the exigency of the occasion, the above actions of President Wulling and Chairman Hopp, on the subjects referred to, will stand approved by the Council, if not objected to.

J. W. ENGLAND,
Secretary.

415 N. THIRTY-THIRD ST.

ADULTERATED ARNICA.

DEPARTMENT OF AGRICULTURE ISSUES WARNING REGARDING IMPORTATION OF ARNICA SUBSTITUTE.

The officials in charge of the enforcement of the Food and Drugs Act report that the examination of recent importations labeled as "Arnica" flowers has revealed that in some instances another product having the botanical name of "*Inula britannica* L." has been substituted for the authentic arnica. This substitute is not recognized as official in the United States Pharmacopocia and so far as the officials know is not recognized as official in the Pharmacopocia of any other country. The Department of Agriculture will recommend the exclusion from the United States of shipments offered for importation as "Arnica" flowers which consist wholly or in part of the adulterant "*Inula britannica* L.," since "*Arnica montana*," which is the botanical name of the authentic arnica, contains active principles which are not found in the substitute.

The striking differences between the authentic product and the adulterant are, according to the officials in charge of the enforcement of the Food and Drugs Act, that in the adulterant the length of the young achene (undeveloped fruit) is very much shorter, about 1 mm. long, while it is from 5 to 7 mm. in the genuine product. The ligulate (ray) flowers are also considerably smaller in length and width than those of the true arnica flowers. The veins number four in the ligulate (ray) flowers of *Inula* while ten have been observed in those of arnica and seven to twelve are reported in the literature. The receptacle (the enlarged end of the flowering stalk) is smooth in the *Inula* flowers but hairy in true arnica flowers. There is an abundance of hair-like structures of certain flower parts developed in both species which are the cause of a somewhat similar appearance of the products.

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Office of Publication, 253 Bourse Building, Philadelphia, Pa.

BETTER RECOGNITION FOR PHARMACISTS BY THE GOVERNMENT.

Pharmacists are, perhaps, in a degree, at fault that better government recognition has not been given them. They have too readily accepted what others said they might have; acquiesced in what others said. There is no desire to take undue advantage of present conditions, but it is hoped that pharmacists will contend for such recognition by the government in the Hospital service of the Army and Navy that bears a relation to the services of pharmacy and its possibilities when opportunities are opened to them. This is not meant in an experimental sense, for American pharmacy, with all the criticism that may be brought forward, compares favorably with European pharmacy; even with the restrictions that obtain there. American medical men never suffered because American pharmacists were unable to supply their demands.

The proposition just now is, that the services of qualified pharmacists are needed; they have a right to speak out as citizens, and also because the government invariably exacts assistance of them, which is always freely given. The point in question, however, is service. Perhaps the same work may be done, in a manner, by employing pharmacists or advising with them, but the time now is, when somewhat of a militant spirit should awaken among pharmacists. Admit that there is a selfish thought embodied, but the purpose is for better service to the public, and surely no one should criticize the desire for a higher professional standard.

Medicine is not pharmacy, any more than pharmacy is not medicine. A distinct Pharmaceutical Corps should be established and embodied in the Army and Navy Hospital Service. Medical men and dentists have been so recognized, and rightly so—pharmacists should be. At the head of such department an efficient pharmacist should be placed, one professionally qualified, and with adequate administrative ability.

It has been assumed that the "Medical De-

partment of the United States Army" is synonymous with "Drug Department of the United States Army." It must have occurred to the officials that this is not the case, for long ago the separation and distinction was made, however, there has been an evident, growing purpose to dominate pharmacy. To permit this movement to continue is not advantageous for public welfare, and pharmacy is certainly hindered in professional advancement. The medical men should realize that their progress, and better service, depends upon progressive pharmacy, and that it is to their interest and for the public good, to encourage every effort whereby pharmacy is advanced. They need the pharmacist as much as he needs the doctor; the greatest efficiency comes through specialization.

This is written prior to the meeting of the National Drug Trade Conference in Washington, at which time this subject will be considered. Up to the present there has been created a committee on standardization of medical and surgical supplies, class 1, under the supervision of the medical sector of the advisory commission of the Council of National Defense. This committee represents pharmaceutical, chemical, and disinfectant manufacturers. Willard Ohliger, of Detroit, is chairman, and Frank G. Ryan, of Detroit, is secretary. Following are the members of the committee: Charles J. Lynn, Indianapolis; Theodore Weicker, New York; Milton Campbell, Philadelphia; R. C. Stofer, Norwich, N. Y.; C. Mahlon Kline, Philadelphia; A. G. Rosengarten, Philadelphia; D. W. Jayne, New York; A. J. Marcuse, New York; S. Norvell, New York; and Herbert H. Dow, of Midland, Mich. The following executive committee of the foregoing committee, in charge of work in Washington, was named: Willard Ohliger, *Chairman*; Frank G. Ryan, *Secretary*, Charles J. Lynn, A. G. Rosengarten and S. Norvell. The headquarters of the committee are in the Munsey Building, Washington, under the supervision of the medical sector of the advisory commission.

This committee has been called upon by the medical sector to prepare specifications for all medical and surgical supplies of the army and navy.

As soon as this work is accomplished specifications will be sent out in the usual manner by the departments and proposals will be asked for.

The Pharmaceutical Committee is in no sense a purchasing agency. It is giving the government gratis, the benefit of expert advice, and information as to how best to meet conditions in the trade for prompt, efficient and economic filling of the order.

In a general way pharmacists may realize what it will mean to them when the government draws upon the manufacturing interests for supplies. There will likely also be further taxation on alcohol and a stamp tax on the usual list, of former occasions, is not unlikely.

THE CINCHONA BOTANICAL STATION.

It is announced in *Science* that the botanical station at Cinchona, in the Blue Mountains of Jamaica, formerly leased for ten years by the New York Botanical Garden, has been taken over by the Smithsonian Institution on

behalf of fourteen American botanists and institutions. It is hoped to make of this establishment a counterpart, in the American tropics, of the well-known Buitenzorg Garden of Java. The station comprises a furnished residence, three laboratory buildings, two glass propagating houses, and a garden of ten acres. Moreover, occupants will have the privilege of studying and collecting over the many thousand acres of the Cinchona reservation and on certain neighboring estates, besides having opportunities for study at Hope Garden, Kingston, with its library, herbarium and rich collection of growing plants, and Castledon Garden, which has a fine collection of cycads, palms, *Ficus*, etc.

COMPOUND SOLUTION OF SODIUM BORATE.

Thomas D. McElhenie, Brooklyn, suggests the following procedure in preparing solution of Sodium Borate: Dissolve the sodium bicarbonate in 500 mls of water; add the phenol, dissolved in the glycerin, and then add the sodium borate. After it is dissolved make up with water to 1000 mls. This procedure, the writer states, avoids effervescence.

OBITUARY.

IN MEMORY OF THOMAS F. MAIN.

(Many more tributes will doubtless reach the JOURNAL, but as the forms of this number must be closed, they are of necessity omitted from this issue.—EDITOR.)

CHARLES HOLZHAUER.

I am overwhelmed at the loss in the death of Mr. Main. His death closes an intimacy of about fifty years, during which time I have learned to know him as a man of bright mind and the most sterling integrity. He was always ready to help and never hurt. He was a friend, of whom it never was necessary to ask when trouble came to anyone, what will Mr. Main do? Personally, I feel I have met with a loss that I shall feel very keenly, and pharmacy will miss him sadly.

EDGAR L. PATCH.

I am sorry to learn of the death of Honorary President Thomas F. Main.

His personality will be greatly missed in all the days to come. Always cheery and thoughtful of others, he endeared himself to all his associates and ever brightened the corner where he was.

I esteem it a great privilege to have been associated with him and shall cherish him in my memory as a helpful inspiration.

EDWARD A. SAYRE.

A message over the wire says Thomas F. Main is dead. Such a shock; even to one who talked with him on Wednesday (it is Friday now). He was very sick, spoke in a whisper, with difficulty. If he knew his real condition, he did not say. His thoughts even then were of others. He said, "tell the boys not to come here without first 'phoning the doctor." I tried to reach the doctor on Thursday, left a message for him and 'phone numbers for home and store. not a word and my home little more than a stone's throw from the hospital. "No news is good news," is an old saying, hence the shock at evening was the greater. Memory fails me when I try to remember when we first met. I seem to have always known him. Always kind and considerate, ever ready to do a favor for others, he was highly thought of by all he came in contact with. He was a genial soul, full of the milk of human kindness. Never robust in health himself he was ever trying to do some-

thing for others. For fifteen years, with one exception (he was then in a hospital), he sat down to dinner with a party of friends and then led the way to the annual meeting of the College of Pharmacy of the City of New York. The last dinner was little more than a month ago. He was ever thinking of others. Recently at the funeral of Dr. H. L. Coit, he gave his reason and expressed his regret at being unable to be present at the services of Dr. W. C. Alpers. "His health was such that he did not dare go." In closing he said, "Men of our age must begin to think a little of themselves."

Our comrade has passed over the portal; he will be missed by a host of friends.

GEORGE C. DIEKMANN.

The sudden death of Thomas F. Main deprives pharmacy of one of her most able, fearless and conscientious representatives. His loss will be keenly felt, not only by individuals, but likewise in association circles. His activities were many and varied, in both the wholesale and retail field, and he enjoyed the friendship and confidence of pharmacists throughout this country. His naturally cheerful disposition and his sincerity of thought and action, endeared him to all those with whom he came into contact, and he will long continue to live in the memory of many.

He was a graduate of the College of Pharmacy of the City of New York, Class '71, and for a number of years served the Alumni Association, in the capacity of Honorary President. He was most active in serving the interests of his Alma Mater, as its secretary, which office he filled for many years, in a most satisfactory manner. His executive ability and his capacity for making and holding friends, made his service of especial value, and his death leaves a vacancy it will be difficult to fill. Personally I mourn the loss of a frank and disinterested advisor, and a warm, sincere friend.

JEANNOT HOSTMANN.

In the death of Thomas F. Main, pharmacy as a whole and the College of Pharmacy of the City of New York in particular loses an earnest and enthusiastic worker.

Immediately after graduating in 1871 he assisted in the organization of the Alumni Association in which he held many offices and of which he had been Honorary President since 1917. Since 1897 he had been Secretary of the College. Ever kind, courteous and patient,

he readily made friends. His sudden death will be a great shock to the many who met him at the annual meetings of the A. Ph. A., few of which he missed in many years.

His taking away leaves a vacancy. Those who knew him will mourn their loss and will feel that a true friend and a sincere and earnest worker for all that he thought good for his chosen profession has gone to his rest.

J. LEON LASCOFF.

It was with profound sorrow that I learned of the death of our beloved friend and colleague, Mr. Thos. F. Main, who was known to me for the past twenty-two years. Mr. Main was noted for his genial good nature and courteous treatment of others. Through his unflinching integrity and thoughtfulness he was respected and loved by many who were connected with the pharmaceutical profession; not only wholesalers and retailers, but also by the trustees, members of the faculty and the students of the Columbia University College of Pharmacy.

Mr. Main was a graduate of the class of 1871 and afterward associated with the institution as trustee, vice-president and secretary, for many years. His interest in the college carried him further than its business affairs. The members of the A. Ph. A., the College, as well as of many other local and national pharmaceutical organizations lost in him a good and loyal friend.

H. M. WHELPLEY.

The news of the death of Thomas F. Main comes as a distinct shock. I have known him intimately since our trip to the San Francisco meeting of the A. Ph. A. in 1889. We came home by the way of Yellowstone Park and were together for a week in that interesting part of the world. During all of these years, I cannot recall a single time that Mr. Main complained of poor health. In fact, he was a man who never seemed to complain about anything. He was, however, alert in watching the interests of the drug trade and never hesitated in giving his time and energy in a very unusual manner. I always looked upon Mr. Main as one who took a very unbiased view of important questions. He studied questions from the standpoint of the manufacturer, the jobber, the retailer and the consumer. He was a particularly good friend of the A. Ph. A., and among those who years ago advocated making this Association the great clearing house for pharmaceutical interests.

GEORGE M. BERINGER.

The decease of Thomas F. Main removes another prominent member of the American Pharmaceutical Association. He was a typical representative of one of the classes of the composite membership of the Association. He represented the active, energetic business man whose viewpoint and experience enabled him to grasp quickly many of the problems confronting pharmacy, and his opinions on many of these were of great value to the pharmaceutical interests.

He was a very lovable gentleman, always kind and polite yet frank and forceful. He usually attended the meetings of the New Jersey Pharmaceutical Association, and the members greatly prized his friendship and appreciated his opinions and kindly advice. The same can be said of the meetings of the A. Ph. A. and here a larger circle will lament his decease and miss the active and genial companionship of this esteemed friend.

JOSEPH L. LEMBERGER.

The news of the death of our fellow member, Thomas Francis Main, came very unexpectedly; if he was ill for any time we did not know it. Our sympathy and feeling for him would have claimed fraternal attention, for he was the embodiment of the spirit of Brotherly Love. We will ever remember his genial nature, which gave expression by his hearty, cordial hand grip and pleasing smile. We surely will miss him at our annual meetings, as he was a faithful attendant and an influential member, belonging to that efficient coterie, always willing to help along the best interests of the Association. Many pleasant memories of our dear friend come as we think of the annual greetings for over two score years.

BOWER THOMAS WHITEHEAD.

Professor B. T. Whitehead, of the South Dakota State College, at Brookings, died at his home April 1, following an illness of several weeks.

The deceased is survived by his wife, a daughter, Lindel, who is attending high school and a son, Lindsey W., Professor of Highway Engineering at Pennsylvania State College. Professor Whitehead was an alumnus of State College, graduating in the class of 1895 with the degree of Ph.G. In 1896 he received the degree of Ph.C. from Northwestern University, in the year following the degree of B.S. was conferred by his *alma mater* and in 1901 they also honored him with the degree of M.Sc.

In 1895 he was appointed instructor in pharmacy, becoming professor of pharmacy at the opening of the next term. The esteem in which Professor Whitehead was held by the student body is attested by the fact that he was elected "father" to college classes five different times. The deceased joined the American Pharmaceutical Association in 1908.

GEORGE A. FERGUSON.

George A. Ferguson, Ph.D., formerly professor of chemistry in the New York College of Pharmacy, died March 27th, at his home, 303 Stuyvesant Avenue, Brooklyn, where also he was born, in 1868. He graduated from Columbia University in 1890.

Professor Ferguson who was well known in bacteriological research, was, for several years head of the Ferguson laboratories in New York



GEORGE A. FERGUSON.

and at Blue Point, L. I. In 1893 he served as Examiner of Medical Supplies for the U. S. Department of the Interior, and was also chemist to the New York Board of Pharmacy.

Professor Ferguson was a member of the American Chemical Society, the Society of Chemical Industry, the New York State Pharmaceutical Association, and the University Club. He joined the American Pharmaceutical Association in 1905.

SOCIETIES AND COLLEGES.

N. W. D. A. URGED TO OPPOSE RE-IMPOSITION OF "1898 STAMP TAXES."

F. E. Holliday, secretary of the National Wholesale Druggists' Association, in a bulletin notice to members just issued, says that prompt action is necessary to prevent the re-imposition of objectionable stamp taxes on medicines, toilet articles, etc., and urges members to take this matter up immediately with their Senators and Representatives, protesting vigorously against the imposition of any unnecessary burdens. It has been intimated, in reports from Washington, that the Ways and Means Committee is disposed to adopt Schedule B of the so-called Emergency War Revenue act of 1898 in its entirety. Mr. Holliday points out that an increase in the tax on all forms of distilled spirits, including grain alcohol, is being considered, and that no arrangement will be made for any form of reduced tax rate or rebate on alcohol used in the manufacture of non-beverage preparations, such as medicines, flavoring extracts, 'perfumery, etc.

THE MANUFACTURING PERFUMERS' ASSOCIATION OF THE UNITED STATES.

The Twenty-third Annual Meeting of the Manufacturing Perfumers' Association of the United States, held in the Hotel Biltmore, New York City, April 10-12, was, according to the *American Perfumer*, the most notable and successful in the history of the organization. Matters of grave importance were discussed and acted upon, the war coming in for its share of attention. The association opposed the re-adoption of the Stamp Tax, approved universal military service, pledged its loyalty to the American Government, and made a handsome contribution to the fund being raised by W. G. Ungerer to furnish and equip an ambulance for use for one year on the firing line in France. This fund, to which contributions are still being received, had reached \$1,600 at last accounts, and perfumers and others were still sending in donations.

The papers read were interesting, timely and of positive value to the members. The entertainment features were ample and thoroughly enjoyable.

The following officers were elected: *President*, Adolph M. Spiehler, Rochester, N. Y.;

First Vice-President, George Hall, Boston; *Second Vice-President*, G. A. Pfeiffer, New York; *Secretary*, Walter Mueller, New York; *Treasurer*, A. B. Calisher, New York; *Executive Board*, 1920, W. A. Bradley, New York; Howard Goodrich, Omaha; 1919, Gilbert Colgate, New York; P. E. Page, Brooklyn; 1918, D. H. McConnell, New York; Vincent B. Thomas, New York; George F. Merrill, Chicago. S. S. West, of Cleveland, and James E. Davis, of Detroit, were elected honorary members of the association.

IOWA PHARMACEUTICAL ASSOCIATION.

The Iowa Legislature has just passed a prerequisite bill for pharmacy by large majorities in both the House and the Senate.

The Iowa State Pharmaceutical Association held a mid-year convention at Des Moines in February, at which time, after the matter had been ably presented by Professor E. L. Newcomb, of Minneapolis, and George Judisch of Ames, the Association by unanimous vote approved of a prerequisite requirement in pharmacy. The executive committee of the State Association and the secretary of the State Association, Al Falkenhainer, together with the State Board of Pharmacy, immediately had a bill drafted after the general plan of the proposed Minnesota bill and the work of the committee is reflected in the final vote, which was 38 to 8 in the Senate, and 76 to 12 in the House.

It is generally conceded that the passage of this prerequisite bill is the greatest piece of legislation for Iowa pharmacy as a profession since the passage of the original pharmacy act in 1880.

NORTH CAROLINA PHARMACEUTICAL ASSOCIATION.

The next meeting of the North Carolina Pharmaceutical Association will be held in Asheville June 19, 20, 21, 1917. President E. G. Birdsong, of Raleigh, will preside.

Although Asheville was selected as the next place of meeting by the members of the Association when they were in session at Wrightsville last summer, still the date was left to the discretion of the Executive Committee. This Committee recently decided that the above date was most suitable since no other convention will be meeting there at the same

time and because the middle of June is a favorite time for going to the mountains.

Mr. C. A. Raysor, of Asheville, will act as local secretary for the meeting. He will have the active coöperation and support of the other local druggists in making the coming meeting a pleasant and profitable one to the visiting pharmacists.

The Battery Park Hotel will be the official headquarters for the Association delegates.

J. G. BEARD, *Secretary*.

TEXAS PHARMACEUTICAL ASSOCIATION.

The thirty-eighth annual meeting of Texas Association will be held in San Antonio, the "City of the Alamo," May 15, 16 and 17. The local committee is making every effort to provide ample entertainment and in this they are assisted by the Drug Travelers.

A large number of new members have been enrolled and this would indicate that the convention in San Antonio will be well attended and of great interest.

Two interesting features of the meeting are addresses by men from National bodies. The program of the first day provides for an address by E. G. Eberle, Editor of the *JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION*. On the second day, the meeting will be addressed by Hugh Craig, Editor of the *N. A. R. D. Journal*.

UNIVERSITY OF MINNESOTA COLLEGE OF PHARMACY.

A testimonial dinner was given to Dean Wulling of the College of Pharmacy, University of Minnesota, on Friday evening, May 4, 1917, at 7.30 o'clock, at the Elk's Club, Minneapolis, to celebrate the twenty-fifth anniversary of his advent to Northwestern pharmacy and to recognize the honor of his election to the Presidency of the American Pharmaceutical Association.

The officers of the Northwestern Branch of the American Pharmaceutical Association,

under whose auspices the dinner was given, extended a most cordial invitation to all the pharmacists of the Northwest and their ladies to come and by their presence show their appreciation of what this big man in pharmacy has done for the profession in this part of the country.

CHICAGO COLLEGE OF PHARMACY.

The W. B. Day "Testimonial Dinner" will be held June 6, commemorating the twenty-fifth anniversary of Professor Day's graduation, and also his association with the Chicago College of Pharmacy. Notice of this was given in the March issue of the *JOURNAL*, p. 332. The arrangements are in charge of the Alumni Association.

MASSACHUSETTS COLLEGE OF PHAR- MACY.

The Alumni Association of the Massachusetts College of Pharmacy held a special meeting on April 18th, at which upon the suggestion of the President, Dr. H. H. Smith, it was decided to omit the annual banquet to the graduating class and to utilize the money usually so expended in establishing a fund for the relief of those students and alumni who may serve in the defense of the country. A committee was appointed to obtain contributions to increase the fund and to have charge of its disbursement.

ST. LOUIS COLLEGE OF PHARMACY.

The forty-third annual commencement exercises of the St. Louis College of Pharmacy will be held the evening of May 16, at the Sheldon Memorial. Dr. George T. Moore, director of the Missouri Botanical Garden, will give the valedictory on behalf of the faculty. The usual banquet will occur the night previous. The committee having the affairs in charge consists of H. M. Whelpley, Theodore F. Hagenow, H. O. A. Huegel, W. C. Bolm, Ambrose Mueller and L. A. Seitz.

NEW OFFICERS OF ALUMNI ASSOCIATION, PHILADELPHIA COLLEGE OF PHARMACY

The Alumni Association of the Philadelphia College of Pharmacy has reported the following list of officers for the year 1917-1918: President, John K. Thum, '96; First Vice-President, William H. Gano, '84; Second Vice-President, John N. G. Long, '87; Recording Secretary, Joseph W. England, '83; Treasurer, C. Carroll Meyer, '73; Corresponding Secretary, Robert P. Fischelis, '11. Board of Directors for three years: Dr. Mitchell Bernstein, '09; J. Frank Strawinski, '98; Dr. P. Samuel Stout, '99; Elmer H. Hessler, '12; Mortimer M. Smith, '13; Dr. Paul S. Pit-tenger, '09; Herbert G. Lilly, '09; Brua C. Goodhart, '07.

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of the change of address is received before shipment or mailing.

Both the old and the new address should be given thus:

HENRY MILTON,
From 2342 Albion Place, St. Louis, Mo.
To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

CHANGE OF ADDRESSES SINCE MARCH 18, 1917.

ALLARD, H. J.,
From 354 W. 18th St., New York, N. Y.
To Technology Chambers, Boston, Mass.

BINZ, E. G.,
From 811 W. 32nd St., Los Angeles, Cal.
To 732 Ceres Ave., Los Angeles, Cal.

PRIOR, T.,
From 282 San Jose Ave., San Francisco, Cal.
To 19th & Valencia St., San Francisco, Cal.

CHARLES, C. D.,
From 120 Logan St., Denver, Colo.
To 1701 Lawrence St., Denver, Colo.

DUNPHY, R. M.,
From U. S. S. Castine, N. Y., N. Y.
To U. S. S. Castine, Vera Cruz, Mexico.

PARIS, J. E.,
From 108 Pruett St., Paragonld, Ark.
To 112 N. Pruett St., Paragonld, Ark.

SECORD, GEO. L.,
From Central States Coll. of Pharm.,
Loyola Ave. & Sheridan St., Chicago, Ill.
To 74 E. 12th St., Chicago, Ill.

MORRIS, MAX,
From 656 Cherry St., Macon, Ga.
To 406 3rd St., Macon, Ga.

WOYENAKA, K.,
From 564 W. 173d St., N. Y., N. Y.
To 210 Harajuku, Sendagaya-Cho, Tokio,
Japan.

TYLER, EARL E.,
From 116 W. 70th St., New York, N. Y.
To 70 W. 68th St., New York, N. Y.

BENFIELD, C. W.,
From E. 55th St. and Payne Ave., Cleveland,
Ohio.
To 6924 Lexington, Cleveland, Ohio.

CHASE, WALTER M.,
From National Apts., 931 Jefferson E.,
Detroit, Mich.
To Editorial Dept., Parke, Davis & Co.,
Detroit, Mich.

JOERGENSEN, G. J. C. SOPHUS,
From Commercial St., Skagit Co., LaConner,
Wash.
To Front St., Skagit Co., LaConner, Wash.

RUDD, W. F.,
From 120 Corvardin Ave., Richmond, Va.
To 1716 Grove Ave., Richmond, Va.

BELSON, M. E.,
From Rosebud, Texas.
To Travis, Texas.

BROWN, FRANK S.,
From Telford, Tenn.
To State & Fifth Sts., Bristol, Tenn.

EATON, E. O.,
From Bluffton, Ohio.
To 11 Winan, East Orange, N. J.

PEXTON, F. S.,
From 1006 Sixth St., Harlan, Iowa.
To Irwin, Iowa.

UNITED STATES PUBLIC HEALTH SERVICE.

List of Changes of Duties and Stations of Commissioned and Other Officers of the United States Public Health Service for the seven days ended April 4, 1917.

Phar. W. F. Macdowell. Granted 30 days' leave of absence from Feb. 11, 1917, on account of sickness. Granted leave of absence without pay to August 31, 1917. March 24, 1917.

Phar. E. J. Thurston. Granted 30 days' leave of absence from April 1, 1917, and 5 months' leave of absence without pay from May 1, 1917. March 24, 1917.

Phar. J. V. Lagrange. Granted 1 day's leave of absence, March 26, 1917. March 25, 1917.

Phar. H. Megaw. Granted 4 days' leave of

absence from April 2, 1917, under paragraph 214, Service regulations. March 31, 1917.

Sanitary Engineer W. G. Stormquist. Proceed to Cheyenne, Wyoming, for duty in sanitary surveys of villages and cities in the State of Wyoming. March 30, 1917.

BOARDS CONVENED.

Board of medical officers convened at the Marine Hospital, Pittsburgh, Pa., for the examination of Pharmacist W. G. Beuler, to determine his fitness for promotion to the grade of Pharmacist of the second class.

Detail for the Board:

Surg. J. W. Schereschewsky, *Chairman.*

Acting Asst. Surg. M. S. Redmond,

Recorder.

March 28, 1917.

OFFICIAL:

RUPERT BLUE,

Surgeon-General.

List of changes of station during March, 1917, in the case of Sergeants First Class and Sergeants, Medical Department.

SERGEANTS, FIRST CLASS.

Nasib K. Maluf, from Southern Department to Ft. Banks.

Max Weinberg, from Ft. Banks to Army Medical School.

Matthew K. Hansen, from Columbus Barracks to Ft. Thomas.

Christopher Killikelly, from Southern Department to Ft. Oglethorpe.

Alexander T. McPherson, from Southern Department to Ft. Totten.

Chester B. Leedom, from Ft. Totten to Army Medical School.

SERGEANTS.

George H. Parker, from Ft. McDowell to the Philippines Department.

Edwin R. Arndt, from Southern Department to Ft. Thomas.

Robert L. LeRoy, from Columbus Barrack to Ft. Thomas.

John Haaies, from Southern Department to Aviation School, Essington, Pa.

Joseph F. Myer, from Reno Remount Depot to Ft. Leavenworth.

John R. Gittings, from "Transport Dix" to Letterman General Hospital.

BOOK NOTICES AND REVIEWS.

The Principles of Pharmacy. By Henry V. Army, Ph.G., Ph.D., Professor of Chemistry in the College of Pharmacy, Columbia University; Member of the Committee of Revision of the U. S. Pharmacopoeia. Second Edition. Revised and Entirely Reset. Octavo of 1056 pages with 267 illustrations, Philadelphia and London: W. B. Saunders Company, 1917. Cloth, \$5.50 net. W. B. Saunders Company, Philadelphia, London.

The individuality of Professor Army has surely found expression in his latest contribution to the pharmaceutical world under the title of "Principles of Pharmacy." That pharmacy has profited much by its advent will be most gladly granted by those fortunate enough to have access to it. Professor Army's knowledge of theoretical and practical pharmacy has been and is to-day conceded by all in position to judge, and this same knowledge is passed on to others in most acceptable form in his book.

The text is necessarily divided in a general way into two sections, the first being devoted to the treatment of theoretical pharmacy and the second to a commentary on the U. S. P. and the N. F. To each subject under treat-

ment he gives his own individual touch in such a way as to serve to the reader, whether or not a student, as a stimulus toward further research. The means to this extended study is definitely pointed out by the bibliography that is so prominent a feature throughout the work. The art displayed in tersely placing the subject before the reader and deftly touching it with a few color spots shows a power that few pharmaceutical writers possess.

Another noticeable feature is its broadness and adaptability for use by pharmacists in all sections of the country. Furthermore there are shown possibilities of constructive work in doing for oneself what it has become a common habit to delegate to some outside source. An illustration in point is the treatment of one substance by another to form the salt of the substance. This is especially valuable, inasmuch as the working formulae are fast disappearing from our pharmacopoeias. Unless the reader has fortunately acquired a college education he may have very hazy ideas as to what method to adopt to produce what is in many cases a very simple substance.

The typographical arrangement of the book

is most attractive and is essentially clear. Part One (ten chapters) covers Pharmaceutic Operations and Appliances dealing with them from the physical standpoint. The consideration of the Pharmacopoeia and other books and the chapter on Metrology have much to be commended. In the last chapter in Part One it is to be regretted that the subject is not elaborated more fully.

Part Two covers Galenic Pharmaceutic Preparations for eleven chapters. The tabulated groups of official pharmaceuticals is especially commended to students as being a good foundation on which to build. The discussion of preparations where chemical reactions take place is properly transferred to Part Three as a matter of convenience. The tables of the classified preparations in the National Formulary will prove of value to the student and busy pharmacist.

Parts Three and Four, treating of Organic and Inorganic Chemistry from a pharmaceutical standpoint, remind one of the general atmosphere of that most excellent text-book under the title of "Attfeld's Pharmaceutical Chemistry," with the added advantage of the recent and more modern view of chemistry.

Pharmaceutical Tests are covered in Part Five. It follows the usual qualitative and quantitative tests with an especially valuable feature introducing tables wherein the subject under discussion is found, first as an ingredient and second as an impurity. In Part Six on Dispensing Prescriptions, it is to be regretted that fuller treatment, especially upon Incompatibilities, is not afforded. Part Seven on Laboratory Exercises lacks much because of the abbreviation of subjects which the author sees fit to make. That which is given is of such excellent character that one regrets the more that further exercises could not have been added.

Closer study will undoubtedly lead one to appreciate more fully this most excellent work on pharmacy. It is a sign of encouragement when such a book appears for guidance in the profession and the author is to be congratulated upon his efforts in this direction.

ELIE H. LAPIERRE.

Annual Reprint of Reports of the Council on Pharmacy and Chemistry for 1916, American Medical Association. The volume contains the report of the Council on Pharmacy and

Chemistry, which have been adopted and authorized for publication during 1916.

New and Nonofficial Remedies, 1917.—Pharmacists who keep abreast of the times, look forward to this annual volume as a convenient and helpful reference. In the present edition the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association are listed. The descriptions of these accepted products are either based on investigations made by or under the direction of the Council or on evidence or information supplied by the manufacturers. As pharmacists are acquainted with this work, which they should have for reference, especially at the prescription counter, it is only necessary to say that the present edition has nearly 400 pages. The descriptions of the articles are complete and given in concise statements, so that a volume of authentic information is contained and just the kind which is needed in a reference book; it is safe to say that no other book presents the matter contained so conveniently arranged for the pharmacist.

Both this publication and the one mentioned preceding may be obtained from the *Journal of the American Medical Association*, Chicago, Ill.

Hygienic Laboratory—Bulletin No. 107, July, 1916, Treasury Department, United States Public Health Service.

Changes in the Pharmacopoeia and the National Formulary.—A digest of the changes and requirements included in the Pharmacopoeia of the United States (ninth decennial revision) and in the National Formulary (fourth edition), with references to the titles not continued from the preceding editions. By Martin I. Wilbert.

Up to the present time 10 volumes of the *Digest of Comments* have been issued, and mention has heretofore been made of these valuable contributions. The present volume, like the preceding, shows careful compilation. We are reminded in giving notice that this is the last issue to which the name of our late co-worker, Martin I. Wilbert, is attached.

Proceedings of the Seventeenth Annual Meeting of the American Conference of Pharmaceutical Faculties, held in Philadelphia, Pa., August 31–September 2, 1916.

JOURNAL ANNOUNCEMENTS.

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THE JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

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PHILADELPHIA

PENNSYLVANIA

PROF. JOHN M. MAISCH

Permanent Secretary of the American Pharmaceutical Association from 1865 until the conclusion of his labors here, September 10, 1893.

Making a deduction from Carlyle's writings, heroes are the brilliant centers of light, and in their loyal recognition lies the security for all external progress. Thereby those, who have gone before, may be said to be always among us with their council and advice.—E. G. E.



JOHN MICHAEL MAISCH, Ph.M.

Professor Maisch organized the U. S. A. Laboratory at Philadelphia, March 1863 and was in charge until its discontinuance September 1865. Although the Laboratory was started after the war between the States had been in progress for several years, the records show that thereby the Government was saved the sum of \$766,019.22, quite a saving for any period, but relatively larger for a half century ago, than in the present day of larger figures.

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NO. 6

EDITORIAL

E. G. EBERLE, Editor

253 Bourse Bldg., PHILADELPHIA

THE URGENT NEED FOR A PHARMACEUTICAL CORPS IN THE U. S. ARMY.

MEMBERS of the American Pharmaceutical Association are, of course, aware that an effort is being made to convince the Government that a pharmaceutical corps should be provided for in the U. S. Army. Articles relating to this promotion are printed in the May issue, and in this number the subject is referred to in the report of the Philadelphia Branch A. Ph. A., and also under Editorial Notes, and a report of the Committee on National Defense of the American Pharmaceutical Association is made in the department of Societies and Colleges of this issue.

The Philadelphia Drug Exchange has sent an official communication to the War Department in which reasons are set forth, why a pharmaceutical corps should be provided for in the Army, and these are so well stated and defined that they will doubtless serve as a source of valuable information to our readers; they follow:

1. The present system of enlisting pharmacists in the Army, *not* as pharmacists, but as privates, is hopelessly antiquated. France, Germany, Japan and other foreign countries have a pharmaceutical corps in their armies in charge of a pharmaceutical expert.

2. The present system is unjust to pharmacy and pharmacists. Pharmacy is a profession and the pharmacist of to-day has had years of collegiate training and practical experience in scientific work. To enlist professional men as privates is not only unjust to the men, but is unjust to the Army, because it denies to the Army the possibilities of service which such men could render.

3. The present system is faulty. The status of pharmacists in the Army is very unsatisfactory. Officially, they are not pharmacists, but non-commissioned officers with responsible duties and no possibility of advancement in the Service as pharmacists. They can excel as privates and be promoted as privates, but they cannot excel as pharmacists and be promoted as pharmacists; and this injures the service.

4. The present service is detrimental to the efficiency of the Army itself, because it fails to recognize the importance of proper and sufficient pharmaceutical service and denies to the sick and wounded the best pharmaceutical service that the Nation can give.

5. The present system is unfair to the Medical Corps, because it denies that body the assistance and support that a properly trained pharmaceutical corps could give. The pharmaceutical

service could be made most valuable to the medical profession, not only in the hospitals, but also in the field.

Pharmacists have been trained, not only in the science and art of pharmacy, but also have had elementary instruction in some of the medical sciences, and with but little extra training could be made useful "medical assistants" in the field in the matter of surgical anesthesia, surgical dressing, etc., thus supplementing and helping the medical service.

We are informed by the Dean of a medical school in Philadelphia that 14,000 physicians will be required for an army of a million, that there are less than 7,000 physicians with ages of less than 31, and that, of these, probably one-half are physically unfit for service.

If this is correct, then only one-fourth of the necessary medical material is available. In view of such a possibility, it seems to us that pharmacists could be made, with extra training, most valuable "medical assistants" in the field, while in the hospitals they could be given charge of the medical supplies of the hospitals, and render pharmaceutical and chemical service in the compounding and dispensing of drugs and in the chemical and bacteriological examinations of excrements, foods, water, milk, etc.

It is becoming very evident that there will be difficulty in enlisting a sufficient number of medical men for the Medical Corps, and it is equally true that much of the work which is now performed by medical men could be done as well or perhaps better, on account of special training and education, by qualified pharmacists. This clearly indicates not only a way for making up the deficiency but also emphasizes one of the reasons assigned for a pharmaceutical corps. The enlarged army of 293,000 men will require 2,051 medical officers; a few weeks ago there were less than 600 enlisted. With a further increase, the relative number of medical officers must be maintained. So the point made is stressed that modern organization demands a delegation of some of the duties now assigned to the Medical Corps, to a pharmaceutical corps.

The *Journal of the American Medical Association*, under the caption of "The Medical Officers of the Army" explains the duties of the Medical Corps in service. We can not quote at length, but such statements occur as, "The camp infirmary is nothing but a small dispensary." "If the fighting has been severe and the casualties heavy, the sanitary personnel may be insufficient for this work, and in that case assistance is requested from the line, etc."

The quality of the food supply must be looked after, microscopical examinations must be made of secretions and excretions; water and other analyses are necessary for tracing the origin of infection, minor dressing, and many other essentials come to mind which the modern pharmacy school graduate is well qualified to perform. Specialization in army organization is quite as important as in other activities and an endeavor to circumvent the giving of professional recognition to pharmacists from prejudice or precedent does not tend toward best service or conservation of life.

Here is an opportunity for liberal coöperation on the part of the medical profession, by which they will not only render a service to those who offer themselves in the nation's cause, but to a profession that has worked with their own for centuries in a service for humanity.

The gunner seldom is given recognition for the part he plays in a battle, neither can the work of the pharmacist, however important, gain the plaudits given those who utilize his work or armamentarium, but he should receive encouragement.

The statement has been made that the pharmacist should not ask for rank, that service should be given through loyalty and patriotism. And still this is the appeal to medical men from an official source, "The life and professional work of the regular army medical officer has many attractions." "The position is one of honor, one that commands respect, and one that presents many opportunities for the ambitious." Should pharmacists not have a pride for their profession, in which such men as Scheele, Labarraque, Caventou, Pelletier, Davy, Rice, Procter, Maisch and others of equal distinction dared to labor in and for? Will we admit that the modern American pharmacist is neither competent nor deserving? The American manufacturers of biologics are all pharmacists; the same may be said of medicinal, chemical and pharmaceutical manufacturers. But this is simply an interpolation; better recognition of pharmacists is a selective proposition and will increase the number of those who will seek their field, and better pharmaceutical service will be helpful to medicine and of greater value to the public and to the Army.

The additional work or information that may be required of those who would be part of a pharmaceutical corps is certainly more readily and understandingly acquired by those who have had training and education than by those who have had neither.

The message is not only intended to stimulate a supreme effort for recognition, so that pharmacists will unite in pushing their claims, but also to urge a persuasion of those who may be able to assist in the culmination and encourage them also to coöperative action. Whatever is worth having is worth fighting for, and if gained after strenuous efforts will be correspondingly more appreciated. The contest is deserving of your effort; give to it your prompt, energetic and enthusiastic support.

If, as we are fully convinced, a pharmaceutical corps in the Army is in the interest of better service and conservation of the lives and well-being of our military forces, then surely, with this object paramount, the five hundred thousand engaged in pharmacy and the related industries, with investments that present a favorable comparison with other activities, a source of revenue for the Government, relatively exceeding that obtained from those shown greater favor, should be accorded due consideration, otherwise a good and sufficient reason for negation. But there must be determination, and the wisdom of the project must be shown.

E. G. E.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

ON THE DETECTION OF MOLD IN DRUGS, FOODS, AND SPICES.*

With Special Reference to a Specific Stain.

BY ARNO VIEHOEVER.

It is noteworthy that even in recent books dealing with the microscopy of drugs, foods or spices, the subject of molds and their detection has scarcely, if at all, been discussed.

As commonly understood, the term "mold" refers to certain types of lower vegetable organisms, botanically called "fungi." The best known of these types are the black molds or mucor and the green and yellow molds or *Penicillium* and *Aspergillus* species.¹

While in the manufacturing process of some food products such as Roquefort and Camembert cheeses the presence of certain molds is desired, in most instances the occurrence of molds in foods and drugs is not wanted. Molds usually not only spoil the appearance of the foods and act repellant to the taste, but also change their appearance and their physical and chemical properties.

As long as the products are in their natural state, or nearly so, it is usually comparatively easy to detect either the mold or the change that has taken place through its growth. This is, however, different, when the condition of the products has been changed through grinding or some other manufacturing process, such as cutting, mixing, boiling or roasting. In this condition it will usually be impossible to detect the mold with the naked eye, and depending on the manufacturing process used, it will often be impossible to detect with certainty any change in color or flavor due to the mold growth in the original product.

The difficulty of detecting the mold in the manufactured product has often encouraged and still encourages the utilization of moldy fruits, vegetables, drugs and spices in the manufacture of either prepared food products or powdered drugs and medicinal preparations.

METHODS FOR THE DETECTION OF MOLD.

There are three ways open for the analyst to detect the hidden mold:

1. *The Cultural Method.*—Mold may be grown by exposing parts of the material suspected of infection by mold under favorable conditions of temperature and humidity. If accidental infection is prevented by very careful sterile manipulation in which the adhering mold fragments are removed by flaming the outside of the material one may obtain excellent results with this method, provided the mold hyphae or spores have not been killed, by the manufacturing process or storage. In this method a number of parallel experiments should be undertaken as well as such in which the conditions of cultivating are varied in order to make sure that a number of other molds possibly present will not be suppressed in their growth. It should be remembered that it takes several days to obtain a result

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

and that this method only works satisfactorily in the hands of an analyst trained along this line. No accurate information as to the extent of the mold infection can properly be expected with this method.

2. *Microscopic Examination of the Material not Especially Treated or Stained.*—Where the analyst wants a quick result, or where he wants to support his findings obtained with the first method, a direct examination under the microscope often is of value. If the material is not changed too much through the manufacturing process or through storage and decomposition, it may be possible in many cases to detect the presence of mold. It may even be possible to determine approximately the extent of the mold contamination by mounting and examining a certain definite dilution of the suspended material in a Zeiss counting chamber, such as is used for counting blood corpuscles. This method works best only in the hands of a well-trained microscopist familiar with the microscopy of plant products as well as molds. It is used by the Bureau of Chemistry in examining tomato pulp and tomato ketchup.²

3. *Microscopic Examination of the Material Especially Treated and Specifically Stained.*—While staining of the microscopic preparation with some of the stains commonly used for vegetable tissues, *e. g.*, methylene blue, methyl violet, etc., will prove of some advantage in the differentiation of plant tissue and mold mycelium, these stains are not specific stains for the cell wall of fungi. van Wisselingh³ (1898) already pointed out that coloring substances like methylene blue, ruthenium red, brilliant blue, and congo red, have no distinct value if one looks for stains to detect chemical substances of definite character. His experiments with another microchemical stain, iodine, followed by sulphuric acid, gave him the desired result, but this stain worked only on material previously treated with concentrated KOH solution. His results will be mentioned later, after a discussion of the work done previously by others on the isolation and identification of the specific substance present in the cell wall of fungi.

OCCURRENCE OF CHITIN IN THE CELL WALL OF FUNGI.

As long ago as 1811 Braconnot⁴ had found the presence of a substance different from cellulose in the cell walls of fungi. He isolated from a number of fungi, including mushrooms and *mucor septicus*, a product similar to cellulose but containing nitrogen, and called it fungin. Fremy⁵ (1859) isolated a substance which was, like cellulose, not soluble in copperoxide-ammonia and called it metacellulose. De Bary⁶ (1866) called it Pilzzellulose, since the substance isolated from molds and mushrooms was insoluble in copperoxide-ammonia and, unlike cellulose, did not give a blue color with iodine and sulphuric acid. Tschirch⁷ (1889) p. 191, recommended the name "mycin" in analogy with lignin and suberin. Gilson⁸ (1894) isolated from the common mushroom (*Agaricus campestris*), as well as from ergot, a substance which he called mycosin and which treated with hydrochloric acid gave glucosamin. Winterstein⁹ (1894) also isolated glucosamin at the same time from other mushrooms (*Boletus edulis*) or fungi imperfecti (*Botrytis cinerea*). In a later publication Gilson¹⁰ (1895) pointed out that the mycosin isolated by him from fungi was identical with the chitosan isolated by Hoppe-Seyler¹¹ (1894) from animal tissue. Winterstein¹² (1895) had already, a few months previous to this announcement of Gilson, isolated chitosan from a number of mush-

rooms, mostly edible, and the opinion of Gilson was thus confirmed. Iwanoff¹³ (1901) also isolated from *Boletus edulis*, *Aspergillus niger* and ergot the substance which gave all the reactions of the substance found in certain animal tissue, especially of insects, and called chitin. The composition of chitin has often been studied and quite recently by Brach¹⁴ (1912) who reports that complex groups of monoacetylglucosamines form the smallest building stones of chitin ($C_{32}H_{54}N_4O_{21}$). This on treatment with KOH is split into chitosan and part of the acetic acid groups present. The constitution of chitin however is not entirely cleared up.

van Wisselingh³ (1898) was the first to support the chemical findings of others by microchemical tests. He used the method of Hoppe-Seyler and Gilson, heating the material with KOH to 180° C. and after removal of the KOH colored it with iodine followed by H_2SO_4 in a dilute form, thus staining the chitin converted to chitosan or mycosin. Gilson had previously found the reagent to work better in great dilution.

van Wisselingh tested a great number of fungi at different stages of their development for the presence of chitin and found it generally with only a very few exceptions (the Peronosporaceae and Saprolegniaceae) throughout the group of fungi. He found it in the common molds and confirmed thus the findings of the chemists. Ilkewitsch¹⁵ (1908) on the basis of inadequate experiments came to the conclusion that the fungi contained neither chitin nor cellulose, but a substance closely related, which he called mycetin. Wester¹⁶ (1909) confirmed the results of van Wisselingh, pointing out the errors of Ilkewitsch. Wester extended the search for chitin and found it in a number of new species of fungi.

Viehoever¹⁷ (1912) repeated the experiments and confirmed the presence of chitin in the cell walls of a number of fungi, mentioning especially *Sporodinia grandis* and *Aspergillus glaucus*. Cihlar (see Vonk,¹⁸ 1915) found chitin in the cell walls of a number of fungi belonging to the three main groups, Phycomycetes, Ascomycetes and Basidiomycetes, including common molds and mushrooms.

APPLICATION OF THE CHITIN TEST.

Recently in examining drug products suspected of containing mold, *c. g.*, ground nutmegs, a patent medicine containing a great number of drugs in suspension, and flour containing ergot, it occurred to the writer that the chitin reaction might be applicable to detect the presence of mold or ergot. The experiments were wholly successful and were extended to other drugs like areca nuts and gentian root, spices like ginger and capsicum, and to food products such as moldy lemons, cherries, strawberries, peaches, tomatoes, water-damaged coffee beans, etc.

Further experiments are being carried on in the Bureau of Chemistry to determine not only whether or not all the molds occurring in food or drug products can be detected with this stain, but also if all stages of development of the different molds can be stained.

So far no tissues of higher organized plants have been found to contain chitin. It is believed that the general application of this chitin reaction in the analysis of food and drug products will enable the micro-analyst to detect much more easily the presence, location and nature of a mold. The analyst probably will obtain

more accurate information concerning the amount of mold present. (The writer has already made a number of experiments to determine ergot quantitatively in flour and believes that the results are promising.) He will not have to depend on living mold and will not have to fear a complete destruction of the mold cells through the manufacturing process, since dead mold hyphae and mold cell fragments will naturally show the stain as well.

It is furthermore believed that the stain can be used with advantage in the detection of infection of plants by fungi. The author in fact, used it to prove that caraway fruits which were suspected of being attacked by a fungus, were indeed infected, some very slightly, others quite markedly. The appearance and staining properties of the fungus were very similar to those of ergot, occurring especially on rye. The test was furthermore successfully used to show the infection of wheat grains with smut spores (*Tilletia foetens* (B. C.) Trel.).

The detection of fungi causing skin and other diseases of animal tissue (see Kolle and Wassermann,¹⁹ 1913) may be facilitated if the test is applied to the infected tissue. The reaction may be of help in toxicological cases in deciding if moldy food or mushrooms might have been consumed and caused the intoxication.

OCCURRENCE OF CHITIN IN LICHENS, MYXOMYCETES AND BACTERIA.

Chitin has been found in a number of forms of lichens, which was to be expected since fungi are a part of lichens. This fact may be of use in determining the origin and source of certain barks. *Rhamnus* barks are, for example, characterized by the presence of lichens on the outer surface. Since lichens occur only on the stem bark, that is, on places exposed to light, the reaction might be of value in deciding whether or not a bark is obtained from the root or stem, for example, in the case of pomegranate bark.

van Wisselingh found chitin in the Myxomycete called "Club Root Cabbage" (*Plasmodiophora brassicae*) and succeeded also in staining this slime mold by treating the infected tissue of cabbage.

Chitin has also been found in bacteria, which fact supports the opinion of systematic botanists like Arthur Meyer²⁰ (1912) that bacteria are closely related to fungi. Ivanoff¹³ (1901) obtained chitin from *Bacillus anthracis* and two other bacteria species, and although van Wisselingh (1898³-1916²¹), Garbowski²² (1907) and Wester¹⁶ (1909) could not detect it microchemically, Viehoever¹⁷ (1912) succeeded in locating the chitin microchemically in a number of species of bacteria. The stain, in this case, is sometimes only visible with difficulty. The bacterial membranes moreover are usually not so resistant to KOH as the membrane of mold cells and the treatment has to be modified somewhat.

NATURE OF MOLDS FOUND IN FOODS AND DRUGS.

Those who are interested in knowing what molds have been found in our daily foods may find much information collected in the books of Kossowicz²³ (1911), Stevens²⁴ (1913) and Conn²⁵ (1912). A number of recent articles on the subject of fungi affecting food products may be found in the Journal of Agricultural Research, including a paper by Thom and Shaw²⁶ (1915) dealing with the molds occurring in butter, etc., and one dealing with those occurring in strawberries (Stevens²⁷ 1916). As far as the writer is aware very little attention has been paid thus far to molds occurring in crude drugs or drug preparations. However,

reference may be made here to the work on the molds causing different kinds of rot of the Ginseng root. (Rosenbaum and Zinnsmeister,²⁸ 1915, Rosenbaum²⁹ 1915.) The molds found thus far in our work on drugs and spices and isolated by the Microbiological Laboratory of the Bureau of Chemistry consisted of different species of *Mucor*, *Penicillium* and *Aspergillus*. Of special interest may be that caraway seed and cumin seed were found to be infected by a fungus transforming the fruits to ergot-like sclerotia.

DESCRIPTION OF METHOD.

The test as mentioned above relies on the transformation of chitin to chitosan which is stained in a way specific to chitosan.

TRANSFORMATION OF CHITIN TO CHITOSAN.

The fact that the chitin reaction is so little known and used is undoubtedly due to the inconvenient procedure as originally recommended by van Wisselingh or as modified by Wester. van Wisselingh in a recent manuscript³⁰ (1915) still recommends the heating in closed glass tubes to 160° C. in a concentrated or 50 percent KOH in oil bath or in a hot air oven. Wester¹⁶ (1909) recommended an especially constructed oil bath in which the material, imbedded in 60 percent KOH and enclosed in tubes of definite size were heated to 160° C. Viechoever¹⁷ (1912) heated the material in 50 percent KOH in small glass tubes in an autoclave under 6 atmospheres pressure (about 164° C.) for a short while using at first closed glass tubes and later open glass tubes and pressures of 2-3 atmospheres (115-120° C.). Experiments were also carried on in which the material was allowed to stand in 50 percent KOH without heating (Viechoever³¹ 1913) with the result that Wester's general conclusions were confirmed, indicating that the action of KOH takes place in the cold as well as at high temperatures, but that it takes months at room temperature to complete the transformation of chitin to chitosan. V. Vouk¹⁸ (1915) recommends the heating of the fungi material in boiling saturated KOH for 20 to 30 minutes.

The writer believes that a heating of the material to almost boiling with 40 to 50 percent KOH or NaOH for 40 to 60 minutes will give satisfactory results in most cases and may be conveniently done on an electric plate in a flask, the opening of which is covered with a funnel.

After centrifuging, if necessary, the excess of KOH is decanted. The material, if it is practicable is pressed out with a glass rod to remove as much KOH as possible. The material is then washed with alcohol or glycerin (about 50 percent) depending on the nature of the product. (Glycerin proved to be very useful in the work with bacteria.)

STAINING OF CHITOSAN.

After removing the last traces of KOH by using more dilute alcohol or glycerin (about 25 percent), and possibly neutralizing at the end with 1 percent sulfuric acid the material is treated with a solution of iodine-potassium iodide (2 iodine, 1 potassium iodide, 200 Cc. water.) The excess of iodine solution is then replaced with dilute sulfuric acid, preferably 1 percent. In the presence of chitin or chitosan a distinct red to violet color is detected.

SPECIAL REMARKS.

If the treatment with KOH is not unduly extended the plant tissue is not very much destroyed and the stain brings out the mold mycelium very distinctly.

In case the color should not be distinct or even be covered by another color in the hyphae, the untreated material may, according to van Wisselingh and Wester, first be heated with glycerin to 300° and then treated with KOH.

In case the material should contain large amounts of starch, which may give a color somewhat similar to that of chitosan, the starch can be hydrolyzed with freshly prepared diastase from malt or with taka-diastase or can be differentiated from the mold with the polarization microscope through its ability to refract the light.

Since alkali carbonates do not seem to effect the transformation of the cell substance, chitin, as well as hydroxides, it is essential that the solution of alkali hydroxides used should not contain considerable amounts of carbonates. After treatment with KOH it is often advisable to carry on the test with part of the material transferred to a watch glass or object slide. It is important that the free KOH be completely removed since otherwise the iodine solution will be discolored and prevent the stain from developing.

The material must be actually stained with iodine solution before replacing the iodine with dilute sulphuric acid. For purposes of preservation the preparation is best kept in dilute glycerine (1 plus 1). The stain becomes gradually weaker and disappears after about 24 to 48 hours.

Other tests have been recommended for the precipitation and detection of chitosan Löwy³² (1910), van Wisselingh,³⁰ (1915). Those already tried appear to be not as sensitive and satisfactory as the iodine-sulphuric acid reaction. Experiments are being continued to find a stain which will not only be as sensitive and specific as the iodine-sulphuric acid stain but will also give a permanent coloration or³¹ precipitation.

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CHEMICAL MONOGRAPHS AND NEW CHEMICALS IN U. S. P. IX.*

BY OTTO RAUBENHEIMER.

One of the principal features of the new Pharmacopoeia is the addition of 34 chemicals. More would have been added, especially of the newer chemicals, were it not for the general principle followed in the Revision that "No substance shall be introduced if controlled by patent rights." Nevertheless, the Sub-Committee on Scope recommended the addition of several patented or synthetic chemicals. When permission was asked from the manufacturers to include these chemicals in U. S. P., this was in most cases refused. A sure proof that manufacturers are not overanxious to officialize their products, or do not care to enlighten pharmacist or physician. I became fully convinced of this after a conversation with an agent of a manufacturer, who openly told me that he wanted physicians to remember the short, euphonious, therapeutic name of his product, but not the long chemical term! Truly not the right kind of spirit in our enlightened, but commercial age!

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

The admissions, as well as the deletions, have been governed by 2 basic principles formulated by the Sub-Committee on Scope under the chairmanship of Dr. S. Solis Cohen, namely "therapeutic usefulness and pharmaceutic necessity."

Before taking up the added chemicals, I will endeavor to analyze the most excellent arrangement of the chemical monographs in U. S. P. IX, for which the Sub-Committee on Inorganic and Organic Chemicals and the Editor, Prof. Remington, are responsible.

ARRANGEMENT OF CHEMICAL MONOGRAPHS.

The heading comprises 3 lines, namely the Latin title in large capitals, the English title, and in the third line the official abbreviation in solid block type, followed by one or more synonyms. The former are an innovation in pharmacopoeia making and will be found very useful by physicians in writing prescriptions and by pharmacists and chemists in labeling shop bottles. The abbreviations in common use have been adopted, as for instance, sulph. = sulphate, chlor. = chloride. In order to avoid confusion, similar terms as "sulphide" or "chlorate" are *not* abbreviated. Synonyms are printed in small type and in some cases are put in quotation marks, which indicates that this name, although not scientifically correct, is largely used in commerce. It is of great importance to note that "Substances labeled with an official synonym must comply with the standards, tests, and requirements demanded for the official article." It is to be regretted that the old nomenclature of alkaloidal salts, as chloride and bromide, has been adopted as synonyms. The sooner these are forgotten, the better it will be!

The title is followed by the Definition including the Empiric Formula, the Structural Formula and the Molecular Weight. The empiric formulas are very empiric, the total of each element being given. This in the case of organic acids is confusing and a great disadvantage as the replaceable hydrogen is not stated.

One novel feature, which is apt to be overlooked by many, is the change in the positions of N and O, in the formulas of organic chemicals, O being now placed before N. This is a decided improvement and in accordance with modern chemical literature and also the *Deutsche Arzneibuch*. The ending NO₃ in alkaloids, which looks to many, especially students, like a nitrate, is now reversed into O₃N! The position of the elements in organic formulas in U. S. P. IX is C, H, O, N; Cl, Br, I, F; S, P.

Structural Formulas are given, besides the Empiric Formulas, when necessary to indicate structural characteristics. The position of the radicals are indicated by numbers. No Graphic Formulas are given. The Atomic Weights are based upon O = 16 and the 1915 Report of the International Committee has been adopted.

Following the definition is the Purity Rubric, which was first introduced into U. S. P. VIII, and which greatly helped to make this work world famous. The language used is: "Containing, when dried to constant weight (in desiccator or at a specified temperature), not less than percent." In some instances a minimum and maximum purity are given. Whenever a purity rubric is stated in the first paragraph then an assay is given in the last paragraph. The figures given in the Purity Rubric represent requirements that can be reasonably demanded in each instance.

A statement on the preservation of the chemical ends the first paragraph, as for instance: Preserve in well-closed containers, or bottles—in a cool place—protected from heat and light, etc. Delicate chemicals, such as alkaloids, are to be preserved in dark amber-colored vials protected from light.

A Caution Note is added, when necessary, as for instance under Trinitrophenol.

Thus far the monograph is in 12 point type and the remainder is in 8 point type, not because the descriptions, etc. are of less importance, but in order to save space. This is well to remember, because in legal cases arguments have been made, that inasmuch as the type was smaller, the subject treated must be of less importance!

The *Physical Description* of the chemicals in U. S. P. IX is divided into several short paragraphs as follows:

Appearance, color and taste.

Solubility in water, alcohol, glycerin, chloroform, ether and other solvents.

Color of Solution and Reaction to litmus.

Melting or Boiling Point and also Specific Gravity of liquids.

Methods for the determination of melting, boiling and congealing points are given in Part II.

Solubilities are not expressed in "parts" as in U. S. P. VIII, but in the following manner: "*1 Gm. dissolves in mls of at ° C.*"

Full particulars are given in Part II, where also the statement is made that "solubilities are not intended as physical constants in the strict sense of the term, but primarily as information required by physicians and pharmacists in connection with the preparation and dispensing of medicines."

The *Chemical Description* in the U. S. P. IX is divided into paragraphs as follows:

Tests of Identity.

In the case of salts these are given for Base and Acid.

Tests of Purity.

These tests are followed by the impurities, in parentheses. The terms "Absence of" or "Limit of" are no longer used. Tests for Arsenic and Heavy Metals are given by reference to General Tests in Part II, in order to avoid repetition and to save space. An important change has been made in the language of the chemical tests. The conditional form of previous Pharmacopoeias, as "If—Gm. be dissolved," has been changed, *as it should be in a legal standard*, to the imperative "Dissolve. Gm."

Assay.

When a Purity Rubric is given than an Assay is provided. Important changes have been made, changes for the better, as these assays are not intended for "tyros." Two metals, Hg and Zn and their salts have an alternative assay, namely, the Electrolytic Determination, which is fully described in Part II.

Biological Assays are only obligatory for Cannabis and its preparations and Pituitary Solution.

Preparation or Preparations:

The official preparations into which the chemical enters as an *active ingredient*

are again appended as in U. S. P. VII. This should be very useful for the practicing physician and also to students of pharmacy and medicine.

The monographs end with a statement in 12 point type:

Average Dose in both Metric and Apothecaries System.

CLASSIFICATION OF CHEMICAL ADDITIONS.

- 1 Acid: Phenylcinchoninic Acid.
- 13 Alkaloids and Alkaloidal Salts, namely:
 - 3 Morphine Derivatives: Ethylmorphine Hydrochloride, Diacetylmorphine and Hydrochloride.
 - 3 Purine Bases or Salts: Caffeine Sodio-Benzoate, Theobromine Sodio-Salicylate and Theophylline.
 - 1 Cocaine Derivative, Beta-Eucaine Hydrochloride.
 - 3 Quinine Salts, Dihydrochloride, Tannate and Quinine and Urea Hydrochloride.
 - 3 Other Alkaloidal Salts, Cotarnine Hydrochloride, Emetine Hydrochloride and Hydrastine Hydrochloride.

The following 14 salts have been admitted:

- 1 Bismuth Salt, namely the Betanaphtholate.
- 2 Calcium Salts, Glycerophosphate and Lactate.
- 1 Creosote Salt, the Carbonate.
- 1 Mercury Salt, Mercuric Salicylate.
- 1 Potassium Salt, Sulphurated Potassa.
- 7 Sodium Salts, Benzolsulphinide, Cacodylate, Cyanide, Glycerophosphate and its 50 percent Solution, Indigotindisulphonate, Perborate and the exsiccated Sulphite.
- 1 Uranium Salt, the Nitrate.

The following compressed gases have also become official:

- 2 Gases, Nitrogen Monoxide and Oxygen.

Besides this, the following 5 chemicals have been admitted into U. S. P. IX:

Glucose, Paraformaldehyde, Phenolphthalein, and Trinitrophenol.

DEPARTMENT OF AGRICULTURE PROPOSED RULING FOR DANDELION ROOT AND DEFINITION FOR CRAMP BARK

DANDELION ROOT—Examination of samples from a recent importation of dandelion root disclosed the presence of about 40 percent of roots, the interior of which were badly discolored and did not show a porous pale yellow wood, as required by the United States Pharmacopoeia, IX, 1916. The appearance suggested that the material had been improperly dried. This fact was confirmed by microscopic examinations showing swollen brownish yellow masses indicating that the inulin masses had been partially hydrolyzed and caramelized. The department will recommend the exclusion from the United States of any importation of dandelion root which, upon examination, is found to contain more than 10 percent of discolored or improperly dried roots.

USE OF THE TERM "CRAMP BARK."—The Bureau considers that the term "cramp bark" applies only to *Viburnum opulus*, now official in the National Formulary, and consequently should not be used for barks from other sources or their preparations.

PAPERS READ BEFORE THE BRANCHES OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

DYESTUFF STATISTICS.*

BY BENEDICT SALKOVER.

The following is a résumé of present-day articles upon that most interesting and all-absorbing topic, "Dyestuffs." The fundamental purpose of this paper is not to present anything original, but to bring home a few facts to you concerning products which play a tremendous rôle in the commercial and scientific American world of to-day. Most of the information has been gleaned from the reports of Dr. T. H. Norton, Commercial Agent of the Department of Commerce.

When coal undergoes destructive distillation in coke ovens or gas retorts, the average products are as follows: Coke 72 percent, gas 22 percent, tar 6 percent. The tar contains some 155 different chemical compounds, none of which are dyes. Ten of these substances are utilized in the manufacture of dyestuffs. They are benzol, toluol, xylol, phenol, cresol, naphthalene, anthracene, methyl anthracene, phenanthrene and carbazol, the latter being a constituent of anthracene. The crude gas given off on distillation contains the first three to some considerable extent. Special purifiers have been designed for their removal and separation. The ten substances enumerated form, from 6 percent to 12 percent of the coal tar, the amounts present varying with the character of the distillation.

These ten crude coal-tar products are separated from one another, and from the great variety of carbon compounds accompanying them in the tar, by fractional distillation, which method, as you know, makes use of the different boiling points of various substances for their ultimate separation. From the ten so-called "crudes" chemical works of a high character prepare nearly 300 so-called "intermediates," compounds that are not dyes, but which are susceptible by direct reaction with proper reagents of being transformed into coloring matters. A number of these "intermediates" are used also in the manufacture of medicinal preparations and photographic chemicals. Leading intermediates are: aniline oil and salts, pure aniline and toluidine, nitrobenzol, naphthol, phthalic acid, salicylic acid, resorcinol, anthraquinone, etc. These intermediates are in reality the raw material for the dyestuff manufacture. Out of them over 900 different dyestuffs are made and currently sold throughout the world. It has been stated in a general way that the average intermediate sells for five times as much as the average crude, and the average finished dye for ten times as much as the average intermediate; so you see the average finished dye is worth fifty times as much as the average crude, a very material enhancement in value. Less than three hundred intermediates have been found sufficient to meet the needs of dyestuff manufacturers, these necessarily combining technical with economic advantages. Likewise, of the more than a million dyestuffs covered by patent specifications, only 900 have won a recognized position, and of these only 400 are in great and varied use.

* Read before Cincinnati Branch A. Ph. A., April meeting, 1916.

It has been stated that it is very doubtful whether many additions of value will be made to the current list of dyestuffs in the immediate future. The field certainly has been thoroughly worked, as is easily demonstrated by the number of patents existing at present. During the last ten years only one new class of dyes has been discovered and placed on the market. Dr. Norton, in summarizing the coal-tar dyestuff industry, gives the following features as essential to success: 1. The presence of an ample supply of coal. 2. The extensive use of this coal for gas and coke manufacture. 3. The use of a plant that allows the recovery of the volatile organic compounds formed during destructive distillation. 4. The industrial treatment of the tar produced, so as to separate and furnish in a fairly pure form the ten crude substances. 5. The existence of a well-equipped chemical works, able to transform the ten crudes into nearly 300 more complex intermediate compounds. 6. The existence of a highly organized works for manufacturing from these intermediates some 900 different dyestuffs. 7. An ample and sure supply of a variety of acids and heavy chemicals for affecting the numerous transformations. 8. A relatively large number of university trained chemists.

It may be interesting at this point to consider the manufacture of one intermediate and one dye, just to show the complexity of the reactions involved and the magnitude of the task. Magenta is one of the most famous of red dyes. In its manufacture three intermediates are employed, *viz.*, aniline, toluidine, and nitrobenzene. The toluidine used is of the commercial variety, consisting of 64 percent of the ortho modification and 36 percent of the para. In order to manufacture it, toluol is the first constituent necessary. It is made by distilling one of the coal-tar fractions, boiling between 82° C. and 110° C., containing benzol and toluol. The fact that it has a higher boiling point than benzol is employed in the fractionation. The next step in the process is the manufacture of *o*- and *p*-nitro-toluol, which is done by the nitration of toluol; *o*- and *p*-toluidine are then made by reduction of nitro-toluol with tin and concentrated hydrochloric acid. Calculated amounts of aniline and toluidine are mixed together in a porcelain container in the manufacture of magenta, and a definite amount of HCl is added. The mixture of the hydrochlorides is heated to 130° C., when it is transferred to another container in which is present definite amounts of aniline, toluidine, and nitrobenzene. The mixture is heated, usually on an oil bath, to about 100° C., when a theoretical amount of FeCl₃ is added. The container is now connected with an air condenser, and the temperature is gradually raised to 180° C., which is maintained for eight hours. After this the mixture is distilled with steam, when the distillate of red oil and nitrobenzene passes over. The melt is now poured into boiling water of known amount, well stirred, and HCl is added. When acidity is obtained, sodium chloride is added and the whole boiled for a short interval. The aqueous solution, which is poured off, contains the hydrochlorides of aniline and toluidine, which, as well as the previous distillates, is commercially used again in the manufacture. The green residue, brittle after cooling, is extracted with boiling water, acidulated with HCl, which dissolves the magenta. Salt is then added to the filtered magenta solution; after standing some time the crude magenta is salted out by this means, and is recrystallized from water containing HCl. The filtrates from the purification of magenta are worked up commercially and sold under the names maroon, cerise, etc. Magenta, chemically known as "homorosaniline

chloride," dyes silk and wool bluish red directly, and cotton, after having been mordanted with tannin and tartar emetic.

In European coke works, especially in Germany, where nearly all the by-products are saved and utilized, modern recovery ovens with condensation plants have a much more universal use than in this country. The majority of the coke plants in the United States have been in the past and, although conditions have been recently materially improved, still are using the bee-hive oven, which conserves absolutely none of the gas, ammonia and tar. It has been definitely proved that the tremendous outlay necessary for the installation of the retort recovery ovens is more than compensated for by the prices received for the by-products or the uses to which they can be put. It is stated that the gas and coke production, provided the latter be equipped with a complete outfit of recovery plants, can together furnish tar and benzol capable of yielding annually approximately 780,000 tons of benzol, 9,600 tons of phenol, 222,000 tons of naphthalene, and 9,000 tons of anthracene; and the minor compounds, cresol, toluol, phenanthrene and carbazol in the customary relative proportions. For years, in this country, millions of gallons of benzol have been employed for enriching illuminating gas, for lack of a better market, when the enrichment could easily have been obtained from other sources. According to government reports, there are over 14,000 establishments in our country which are absolutely dependent upon dyes and colors. These establishments use over \$3,000,000,000 capital, and it is estimated that over 2,000,000 men and women work in manufacturing plants which are directly dependent upon the use of artificial colors, and nearly all of these colors are made from coal-tar products.

Of course, we have taken a tremendous stride since the summer of 1914, and the conservation of coal tar and the utilization of its products are matters which have been and are dwelt upon both scientifically and commercially. The first aniline dye, mauve, was discovered by Perkin, in England, in 1856. In 1857 the industry of tar distillation was first established in this country, when Samuel Warren distilled tar in Buffalo. In 1856, likewise, magenta (previously discussed) and fuchsine were discovered. Then followed, in 1863, Hoffmann's violet and Bismarck brown; in 1864 naphthol yellow; and in 1867 the nigrosines. The manufacture of dyes was taken up with great avidity in both Germany and Switzerland. A vast amount of patient, industrious and intelligent research was expended upon the new field. France and England took up the industry with less zeal. In 1871 artificial alizarin appeared and a few years later saw chrysoidine, malachite green, eosin and a number of the current standard dyes upon the market. The United States commenced to consume great quantities of German dyes at this period, and the time was undoubtedly ripe for American enterprise. In Buffalo, in fact, in 1879, the first coal-tar dyestuff establishment was originated. About that time eight other plants went into operation and all of these depended upon European intermediates with the exception of the Buffalo works, which commenced to make aniline oil in 1884 and was forced to cease due to its inability to obtain raw materials. In 1885 only four establishments of this nature were left, and these manufactured on a mighty close margin. Incidentally, these four persevered and are flourishing at the present time. Of course, at the present time this country is manufacturing great quantities of intermediates and dyes

from its own crudes. It is estimated that the production of tar from the coke ovens and gas works of the country will probably amount to about 300,000,000 gallons at the close of 1917, which figures show the strides we have taken along these lines. The production of the 4,375,000 pounds of intermediates, which at the present time represents our monthly output, is an achievement born and grown to its present stature in two years' time. This growth is even more remarkable than that of the dyestuff industry itself, since it was well established, or fairly well, and in the hands of experienced companies years ago. At the present time we certainly are manufacturing a tremendous quantity of dyes. One concern alone, it is stated, has increased its annual output from 3,000,000 pounds to 30,000,000 pounds in the last two years. With regard to the great bulk of heavy chemicals required in the coal-tar dyestuff industry, the United States is now practically independent of the rest of the world. According to special records kept by the *Journal of Commerce*, the remarkable advance which has occurred in the dye and chemical industries of the United States in the last two years is indicated in the fact that capital authorized for new concerns in that period aggregates \$186,389,000.

The following is a statement of Mr. Schoellkopf, president of the Schoellkopf Aniline and Chemical Co., which appeared in a recent issue of the *Journal of Industrial and Engineering Chemistry*: "We, as well as the other manufacturers of dyes, have been criticized for not making a greater variety of dyes. Some people seem to have an idea that it is so very simple to produce any shade or quality desired. To be perfectly frank, I think that the progress both as to quality and variety made in the last two years is truly remarkable if one considers the difficulties it has been necessary to surmount. In time and with proper encouragement the American manufacturers will produce every color that is necessary and do it just as well as our foreign competitors did it. In quality our products are absolutely identical with those imported from the other side and in some cases better. As to the *poor* quality of American dyes, the possible 100 dyes made in this country cannot do the work of the 300 or more which were formerly imported. The manufacturers do not claim they will, but many dyers try to make them do that work. The results are very bad and the dyer blames the dyes when, as a matter of fact, he knows better. For purposes of national defense it is absolutely vital that this industry should be developed. It is not just newspaper talk that dye factories can be converted into ammunition plants on short notice. It is, in fact, very reasonable since the same materials are used in producing dyes and ammunition. After the war I believe you will see the industry established in all of the warring countries and the government will, if necessary, even subsidize the manufacturers in order to keep the plants in operation."

A few weeks ago all of the newspapers came out with the startling items about Japan attempting to control the dyestuff industry of the world. This fabrication was engendered by the following news item appearing in the *Oil and Color Trade Journal*: "An enterprise has now been started in Japan under the title of the Japan Dye Manufacturing Co. So far, however, no agreement has been come to between this group and the government as to the exact interpretation of the subvention law (which fixes the subvention at 8 percent of the paid-up capital); it

has not been possible even to commence the erection of the factory building. Apparently, the project has been carelessly handled, and the great difficulties have been disregarded, as well as the question whether Japan possesses sufficient experience to enable her to take up this branch of industry and compete successfully with Germany in the dye trade after the war."

In conclusion, it might be well to attempt to answer the inquiry often raised as to why the natural resources of our country have never been utilized on any extensive scale to meet the needs of American consumers and create a distinctly American coal-tar chemical industry. The blame, I think, rests evenly upon the shoulders both of the manufacturers and the consumers. The former dwelt upon the complexities of the problem, the enormous financial outlay necessary to really progress sufficiently to meet foreign competition, and the possibility of never being able to meet this competition upon an equal basis; and so no direct attempt was ever made to focus national thought in the United States upon the problem. The latter were, as a rule, indifferent since they received dyes sufficient for their needs and perfect in every detail. And so we became dependent upon Germany and annually expended fortunes in the purchase of foreign-made materials.

What mighty changes have been wrought in the condition of this particular branch of industry in the past two years I have attempted to set forth to you in the foregoing brief summary. Miraculous, indeed, has been the upheaval, so great, in fact, that some optimists claim that by 1920 the United States will be in a position to supply itself with all materials of a chemical nature. I certainly hope that their optimism will be justified.

FROM THE LABORATORY OF THE
WM. S. MERRELL CHEMICAL CO.,
CINCINNATI, O.

THE DRUGGIST'S DUTY IN RELATION TO REGULATING AND DISPENSING EMMENAGOGUES AND VENEREAL REMEDIES.*

BY CHAS. F. KUHN, M.D.¹

This is a subject with which we are all familiar and one that has permeated every form of human society. The proper solution of this problem will, to a great extent, elevate humanity to higher and nobler ideals in life and also avoid much unnecessary suffering and crime.

The promiscuous dispensation of drugs is a gigantic evil, the result of which is producing irreparable harm.

I am sure there are as many men of high character in the drug profession as in the practice of medicine, who could not be persuaded under any circumstance to encourage or assist in this dangerous practice, but inasmuch as the condition actually exists, I offer no apology for this paper.

Emmenagogues are remedies given for the purpose of producing menstruation. The patients applying for them, usually claim to have caught cold and express

* Read before Detroit Branch A. Ph. A.

¹ President Samaritan Hospital, Detroit, Mich.

fear of some serious illness if not relieved. Many women apply to physicians for something to bring on their menses. It has always occurred to me that it was a dangerous practice to give even the least harmful preparation known as an emmenagogue. The medical profession believes that most cases of menstrual suppression are due to pregnancy and therefore, no drug should be given for the purpose of producing abortion.

There are instances other than pregnancy causing suppression of menstruation, but they are comparatively rare and of such a nature that only competent medical attention should be sought.

There seems to be a common admission among many women consulting a physician that they had tried various preparations bought at the drug store, which they often exhibit or in familiar terms describe. The hard rubber catheter is frequently used and the user seems free to tell from which drug store it was purchased.

The druggists and physicians bear the same relation to humanity and have the responsibility of using every means to educate the laity regarding the sacredness of pregnancy and the criminal aspect of any attempt to furnish the means of interrupting its course.

The moral degeneracy and suffering caused by these agencies is appalling; chronic invalids, immorality and too often the premature grave covers the penalty paid by the victims, who to a great degree might have been saved.

I am frequently called upon as a surgeon to perform operations for the relief of strictures, abscess of the prostate, urinary fistula, peritonitis, pus tubes and obstruction of the bowels upon patients who often tell me they depended upon drug store medication for the cure of venereal diseases or in taking medicines to produce abortions upon themselves.

Many specific instances might be cited but with your permission I shall report briefly the following cases to illustrate the contention:

Case No. 1—Mrs. G., Age 26; married; mother of one child. Secured from a drug store emmenagogue pills which she took for the purpose of producing abortion. The result was unsatisfactory, so she purchased a hard rubber catheter with which she induced abortion by its introduction into the uterus. She developed peritonitis and died on the 8th day.

Case No. 2—Mrs. K., age 28; married; no children. Used hot mustard water baths, pills obtained at a drug store, and finally a hard rubber catheter which she introduced into her cervix for the purpose of producing abortion. When brought to the hospital she was suffering with peritonitis. After several weeks of severe suffering and impending death, she developed multiple arthritis with deformity of her joints, the result of which has made her a chronic invalid for life.

Many persons suffering with venereal disease applying to the physicians for treatment claim to have used some patent medicine.

The one thought of a patient suffering with gonorrhea is to stop the discharge, believing that when the discharge is checked he is cured. This of course, is erroneous and is later learned with bitter regret, when afflicted with enlarged and painful testicles, inflamed and diseased prostate or an abscess of the prostate, or gonorrheal rheumatism, or severe stricture, any one of which complications usually incapacitates a man for life. Again, some fortunate enough to escape the

terrible complications, marry and inoculate the wife and if a child be born, endanger its eyes to gonorrheal infection which has caused total blindness in many unfortunates.

One of the sad tragedies in life is to meet a young man giving a history of having had a small venereal sore, on which he sprinkled powdered calomel until it disappeared. If a rash broke out he bought a bottle or two of some medicine for his blood and now perhaps five years later he is a chronic syphilitic with permanent organic lesions from which he will never recover. The following cases may be of interest:

Case No. 1—Mr. C., age 24, single. Contracted gonorrhea. He did not consult a physician but purchased medicine to take internally and apply externally and an injection. He continued this treatment for a number of months. I was called to see him and found him suffering with epididmo-orchitis and severe urethral stricture. After a long siege of treatment, an external urethrotomy was performed. The suffering of this young man was indescribable and now after 3 years of untold misery he is an invalid.

Case No. 2—Mr. C., age 25, single. Developed gonorrhea, for the cure of which he purchased preparations. When I saw him he was unable to walk, suffering with gonorrheal arthritis. For over 4 years this young man has been an invalid unable to care for himself, and denouncing patent medicines as being responsible for his condition.

Case No. 3—W. S., age 30; electrician. Contracted a small sore on his prepuce. He applied powdered calomel and took a bottle of blood medicine. In several months the sore disappeared and he thought he was cured, but from that time he had sore throat and mucous patches in his mouth. Several years of poor health compelled him to seek medical advice and to-day he has optic neuritis and is nearly blind. In consequence he is of no value to himself nor the world.

The reasons given by some young men for not consulting a physician are that they are ashamed or do not care to let a doctor know what ails them or some one recommends a patent medicine as a sure cure or they are informed that doctors rob them and prolong their convalescence.

The women are influenced by the high cost of living, the objection to children by landlords, the social tendency of American women and the public sentiment, aroused by popular magazine articles on "Twilight Sleep," robbing mothers of the horrors of childbirth, but which is not practical and only seems to frighten them. Then too, the lectures on birth control tend to discourage women of the desire for motherhood.

For these reasons it is very hard for physicians to convince women that under no circumstances would they aid in the interruption of pregnancy. The same pressure no doubt is brought to bear upon the druggist and you certainly have my sympathy.

The druggists as an organized body should be congratulated for their efforts exerted in relation to many of the former abuses. You have succeeded in the enactment of the Harrison Narcotic Law which all agree is a blessing to humanity. Your effort to enforce the law in reference to the sale of liquors by eliminating its sale is another very heroic evidence of your unselfishness. The careful compounding of prescriptions and detection of physician's mistakes which might prove

fatal is possible only through your knowledge. The exposure of many inert proprietary preparations and safeguarding the public from the indiscriminate dispensing of "shot-gun" preparations are but a few of the virtues attributed to you.

It has been stated that honest confession is good for the soul. Let he who is without fault cast the first stone.

This means that what has been said about the druggist is likewise true of the doctor. I have a vision of the searchlight exposing the traditional weaknesses of our professions and that in the near future a closer and more intimate relationship between druggist and doctor shall result in a greater and better service to humanity.

COST ACCOUNTING.*

BY J. R. WORDEN.

Bookkeeping—cost accounting—is the foundation upon which we must build a business, so we may as well start there.

One thing that I find we're all troubled with is that we *know* a lot of things that are *not* so. It's a wonderfully easy matter to think we know a thing so long that we eventually know it to be so.

Like the fellow who tells a story—makes it out of the whole cloth—knows it's a fake at first—but tells it till he believes it himself.

We know we're making money—on toilet goods—on cigars—on prescriptions—on any one or all departments. But *how* do we know it?

In many stores—and not only drug stores by a long shot—and not only among retailers—the only reason we have for believing it to be a fact is because the sheriff hasn't disturbed us yet.

A couple of years ago I asked my grocery man—who also ran a meat market—if his books told him which department made him the most money.

He replied that his books didn't tell him, but that he knew all right which showed the most profit. Inside of six months from that date he had failed. Yet, he had put it over for some time—run along on *guess work* for about three years before the crash came.

That man should not have failed—he had the right idea in selling—gave good service—appreciated the fact that it was the dear public that paid his meal ticket, and treated his customers right. *Guess work* put him out of business.

That little habit of *knowing* when we only think we know is one of the biggest obstacles in almost every man's way. Times—conditions—change—maybe what we knew five years ago isn't so at all to-day. And on those things decided five years ago we have a closed mind.

EXPERIENCE OF A SPECIALTY CONCERN.

It's a good deal like the experience of a certain specialty concern. They found that after a certain length of time, sales began to fall off. So they made a few shifts in the territories and sales immediately picked up.

The reason was this: Smith, we will say, was in Detroit. After two or three years, Smith knew just who would and who would not buy from his house. And,

* Read before the Detroit Branch of the American Pharmaceutical Association.

of course, he didn't waste any more time trying to sell those he knew wouldn't buy.

Smith was transferred to Chicago, and along came Jones to handle this territory. Jones wasn't wise to all the things Smith knew—hadn't any musty pages of precedent to follow—didn't know certain people wouldn't buy from his house. So as one of the officials of that company expressed it, "the damn fool went right in and sold them."

Because we know so much that isn't so is a mighty good reason for having some one, who isn't handicapped with a particle of knowledge of where we are and are not making money, come in and put in an accounting system.

Give him access to all you have. Outstanding accounts, balance in bank, bills payable, stock on hand, and stock in transit—don't hide a thing from him.

And, when Mr. Business Doctor gets through and writes out his little prescription, be almighty careful to follow directions.

Some businesses die. Others, like some men, drag along with one foot in the grave and the other on a banana peel. As a rule the man has gone against the laws of nature and as a rule the business with one foot in the grave has gone against the laws of business. You might disregard the laws of either for a while, but there comes a time of reckoning and then—you're a dead one.

"IF I HAD ONLY KNOWN IN TIME."

Lee E. Joslyn, Referee in Bankruptcy or Undertaker of Dead Businesses, perhaps is better able to give the real reasons why business men fail than most any other man.

He had an exceptionally good article in the April and May *New Ideas* under the heading of "If I Had Only Known in Time." Under the caption of "Guess Work Ruins Many," he says:

The great bugbear of the man who finally terminates his business career in the bankruptcy courts is guesswork. He "guesses" he knows how to run a store; he "guesses" he can get capital enough together by scraping and borrowing to buy a stock and pay the first month's rent; he "guesses" he is making money; and he "guesses" at the amount of stock on his shelves, the debts he owes, and how much he has in outstanding accounts. In fact, he "guesses" at everything.

The retail bankrupt is the best little "guesser" I've ever met. He even beats the farmer who used to guess that the pea was under the middle shell. The farmer had possibly one chance in three to win; the business man has one chance in twenty, figuring on the present financial death rate.

Business is too serious an undertaking to be made a guessing game. It is bread and butter, and perhaps jam, if a man succeeds, and the crusts of failure and bankruptcy if he doesn't.

Mr. Joslyn gives an interview between a Bankrupt and the Court, as follows:

COURT.—Mr. Bankrupt, the best report we could get considering the badly muddled condition of your business, shows that you have assets of about \$1,500 and liabilities of more than \$4,000.

BANKRUPT (Amazed).—What! You don't mean to tell me it's as bad as that.

COURT.—That's what the report shows. Where did the money go?

BANKRUPT.—I'm sure I don't know. Until a few months ago I thought I was making money.

COURT.—Didn't your books show you otherwise?

BANKRUPT.—I didn't keep any. I didn't wake up to the situation until it was too late. I went into business on small capital. I knew it was dwindling away, but I thought it was going into the business.

Then I began to buy more on credit. My bills got past due, but I didn't think much of it. Business seemed pretty good, and I always thought it would get better. I never figured up to see how much I owed. My debts piled up before I knew it.

When my creditors began to dun me, I quit buying from them and got credit elsewhere. If things got too hot, I borrowed money to pay their bills. Then, the storm seemed to break all at once. If only someone had told me I wasn't making money.

Here are some points that Mr. Joslyn makes:

Make your books a producing factor. Make them tell you where you are overstocked, what lines you ought to handle. If your books tell you you are losing, that is a signal for you to act and act quickly. Either find the leak and stop it or give up if you know your case is hopeless. Don't let your promise die or dry rot.

WHAT DOES YOUR BOOKKEEPING TELL YOU?

I wandered into the store of a friend of mine the other day, and he said, "I have just put in a new system of bookkeeping."

"What does it tell you," I asked.

He replied, "It tells me just where I stand every day. There isn't a thing that I ought to know about the business that it does not tell me. It gives me my business by departments, my profits by departments, my sales by clerks, my outstanding accounts, my cash in bank and money owed, a perpetual inventory; I've got the whole story and every day I know just where I am, whether I am overbuying in some particular department, whether I am extending too much credit. I can't think of a thing that I ought to know that it doesn't tell me."

"What about the cost?" I asked him.

"The cost, well, it just costs me \$25 a week less than I was paying, and besides, it gives me a lot of time on the floor that I didn't have before."

This druggist has had a man come in and install this system and keep it up for him. For a certain stipulated amount the man will come over to his store and spend perhaps an hour or two a day in going over his sales, slips and bills and putting his books up to date and showing him each day just where he stands.

Perhaps that system wouldn't do in every store, but there isn't a store in Christendom that shouldn't have some kind of system; if not that one, then some system that tells the boss where he is heading.

There is another point that you are up against. You can't always get good help. Sure you can't. That's one of the hardest things in the world to get—good help—whether for a drug store, a grocery store, a machine shop, or a livery stable. There's another thing to think about. You find *some* men that are always pretty well equipped with good help—and there must be a reason. There *are* several.

THE QUESTION OF TRAINING HELP.

One of the hardest things in the world is to find a clerk, or other assistant that is just the sort of man or woman you want until you train them to your way of doing things. I'll admit there are many who can never be trained, but, on the other hand, there are some who can.

This question of help reminds me of a little corporation up in the state that has been just hanging on by the skin of its teeth for the past few years. The directors of that company have had a number of serious meetings with the manager, and have fired superintendents, foremen and everybody up and down the line

several times—everybody but the manager. The *same* manager and the *same* trouble are still on the job.

The board of directors remind me of a bunch of men out West who lynched a man for horse-stealing. A committee was appointed to notify the widow. The spokesman of the committee rapped on the door and when the widow opened it, he said:

"We have come to inform you that we have just hung your husband for horse-stealing, but you have the laugh on us, for we got the wrong man."

I know a certain employer of labor in this city who has made himself a very wealthy man in the last few years, and I want to tell you it was his system with his help. He believes that if he's got a man in his employ who thinks he's not getting as much money as he's worth, that that man is worth practically nothing to him. He doesn't want any of his employees in that condition of mind—he either fires them or pays them more. More, I say, than they ask for.

FOUR THINGS ARE IMPORTANT.

The attractiveness of your store, the courtesy of your clerks, the line of goods you carry, attractive or poor window displays. Each of these has an important bearing on the question. I have passed by drug stores—passed them by because I was treated discourteously. I have passed by department stores—dry goods stores, because some young lord of creation hadn't the right attitude of mind toward the buyer—he hadn't been *taught*.

I tried for a certain length of time to spend my money in a certain drug store. They had a nice store and they have it yet. But as long as I went in there, I never got acquainted—nobody knew me. It wasn't a downtown store—just a community store, and I lived within three blocks of it. The atmosphere was too chilly. I wanted to go somewhere where they'd say "How-do-you-do" as if they knew me.

I tried another store close by this one, and every time I went in there I found the young man who presided over the soda water fountain discussing the evening's happenings with the young man who took care of the cigar case and when they got good and ready they turned around and looked at me. I would have liked to kick them both outdoors but I passed up the inclination—also the store.

There's another store, just a block away. When I went in there, there was someone ready—"something I can do for you?"—or "what can I do for you?" And there was a smile and the welcome sign seemed to be hung all around the store. I believe I spent more money than I intended. Anyway, I went back again. I don't know how much my business amounted to—but it amounted to something, and I took some other people in there and there's no question but what that same atmosphere and that same "We're here to please you and to see you're taken care of right" affects everybody the same. That man got the business.

Now I don't think he's got any particular pull that gets him all the good clerks. I think he pays them. I think he trains them.

To summarize: If I were starting in the retail business to-morrow I would have for the foundation an accounting system—

Then I would build the superstructure by carefully selecting my help—then recognizing the fact that a good manager must be a good teacher I would train and educate my clerks till they were genuine salespeople, and by contests among

them, or bonuses, or some other plan, I would have them thinking of my store as "our store."

Occasionally when a live wire salesman was in the city for the evening I would arrange a meeting and have him give my boys a talk on merchandising. For a successful salesman will have with him a stock of good ideas that he has gathered in his travels—plans that have proved successful.

Then I would see that articles containing real ideas on selling—service—store advertising, etc., reached and were read by my clerks.

I would constantly work to get them to thinking—to doing *real* thinking—and when they got the habit well formed, my profits would increase.

Then I would get from the county clerk or from the daily paper the lists of births, and every time the stork visited my neighborhood, I would see that a suitable present with a letter over my name went out to Baby Smith.

I would in some way give that store individuality in appearance. I would endeavor to get away from the beaten track—to do something different—to have an occasional original idea.

I would advertise—I would have a mailing list of the best people in my neighborhood—and I'd use it.

And I would roof this superstructure with a kind of greeting and treatment of people that would make them go away saying, "By George, that man knows how to treat his customers."

And then, with my finger on the pulse of the business, if I did make an occasional mistake—which I undoubtedly would, for the man who never makes a mistake, never makes *anything* much—I would know in time to change the medicine and keep out of the hands of the Undertaker of Dead Businesses.

SELLING ALCOHOL WITHOUT INTERNAL REVENUE SPECIAL TAX.*

BY J. O. BURGE.

In order to handle alcohol without special tax, the dealer or manufacturer is required by the Internal Revenue Department to observe and conform to the following rules and regulations:

First, no more alcohol must be used in the preparation than is actually necessary for the purpose of extraction, solution or preservation of the medicament.

Second, each fluid ounce of the preparation must have an average U. S. P. dose for an adult of some drug or drugs of recognized therapeutical value, either singly or in combination.

So long as the preparation conforms to these two requirements, the "special tax" of a retailer is not required, provided the preparation is sold for genuine medical purposes. But remember, for example, if U. S. P. Tincture of Ginger, or any similar preparation is sold for beverage purposes or under circumstances which would lead the seller to suspect it is being used as a beverage, then the seller would become liable for the "special tax" as a liquor dealer.

Pharmacists may carry wines and distilled spirits in stock for the manufacture of U. S. P., N. F., and other preparations, and for compounding *bona fide* prescriptions, without the "special tax," provided sufficient drugs are used in the

* Read before Nashville Branch A. Ph. A., April meeting, 1917.

alcohol before its sale to render it unfit for use as a beverage. But they cannot sell spirituous liquors or wines not so compounded, even on a physician's prescription, and for purely medical purposes, without the *special revenue license*.

In order to exempt the pharmacist from this special tax, the Internal Revenue Department has approved of the following combinations, by which the alcohol is so denatured that it may be used for bathing and general antiseptic purposes, the intention being that the prescription shall specify the nature and amounts of the ingredients desired in the compound:

- 1—Alum, 10 grains; Camphor, 3 grains; Alcohol, 4 ounces.
- 2—Carbolic Acid, 1 part; Alcohol, 99 parts
- 3—Formaldehyde, 1 part; Alcohol, 250 parts.
- 4—Alum, 2 ounces; Zinc Sulphate, 1 ounce; Alcohol, 1 gallon.
- 5—Alum, 1 drachm; Camphor, 1 ounce; Alcohol, 1 pint.
- 6—Mercuric Chloride, 1 part; Alcohol, 2000 parts.
- 7—Alum, 2 ounces; Salicylic Acid, 2 ounces; Oil Gaultheria, 2 ounces; Water, 1 pint; Alcohol, 1 gallon.
- 8—Carbolic Acid, 2 drachms; Oil Gaultheria, 20 drops; Alcohol, 1 gallon.
- 9—Mercuric Chloride, 1½ grains; Hydrochloric Acid, 2 drachms; Alcohol, 4 ounces.
- 10—Sodium Bicarbonate, 3 ounces; Hamamelis Water, 16 ounces; Water, 16 ounces; Alcohol, 16 ounces.
- 11—Formaldehyde, 2 parts; Glycerin, 2 parts; Alcohol, 96 parts.
- 12—Oil Cajuput, 1 drachm; Alcohol, 1 pint.
- 13—Tannic Acid, 12 parts; Alcohol, 125 parts; Water, 125 parts.
- 14—Carbolic Acid, 1 drachm; Tannic Acid, 1 drachm; Alcohol, 1 part; Water, 1 part.
- 15—Alum, ½ ounce; Formaldehyde, 2 drachms; Camphor, 1 ounce; Alcohol, 1 part; Water, 1 part.
- 16—Lysol, 1 part; Alcohol, 99 parts.
- 17—Compound Solution of Cresol, U. S., P., 10 Cc.; Alcohol 1000 Cc.

In the April 1916 number of the JOURNAL OF THE A. PH. A. appears the following formula which was adopted by the Denver Branch, A. Ph. A.: Antimony and Potassium Tartrate, 1 gramme; Formaldehyde, 4 mils; Water, 125 mils; Alcohol, to make 1000 mils.

The label adopted reads as follows: "Bathing Alcohol. For External Use Only. Poisonous if taken internally. Pure Grain Alcohol, modified to comply with the Federal Regulations." (Label printed in red.)

EFFECT OF THE RAYS OF THE SUN UPON THE FORMATION OF AMYGDALIN IN WILD CHERRY BARK.

BY C. VERNE NICHOLS.

The fact that the bark of "*Prunus Virginiana*" or Wild Cherry, as well as the almond and the peach pit contains a glucoside, which when brought into contact with water in the presence of the accompanying ferment, will produce hydrocyanic acid as one of the reactionary products, is well known. It, too, is well known that the bark collected from different portions of the same tree will yield different amounts of this deadly poison. One writer has shown that the bark of the roots contains the largest proportion of this glucoside which yields hydrocyanic acid, and that the bark from the twigs contains a greater proportion than that from the trunk of the tree. The author will not attempt to explain the cause of this difference but it is presumable that the basis for such a difference is the effect which the rays of the sun has upon the formation of the glucoside.

It will undoubtedly be of interest to some to know that the yield of the glucoside (or of the hydrocyanic acid) from the bark of the different sides of the same tree is not the same, the amount obtained from the north side exceeding that obtained from the opposite side. By comparing the amounts of both hydrocyanic acid and amygdalin in samples of bark taken from both the north and south sides of three different trees, a fairly accurate conclusion may be drawn as to the action of the sun upon this formation and as to the accuracy of the presumption. In order to prove this point beyond the question of a doubt, however, it would be necessary to carry out several times the number of determinations that were made by the author.

The samples used were collected during the month of November, being removed from the trunks of trees at a height of about six and a half or seven feet from the ground. These were dried in an atmosphere slightly above room temperature; when dried they were ground to moderately fine powders and small amounts varying from 5.5 Gm. to 10.4 Gm. were placed in liter flasks, 100 mls of water added, the flasks stoppered securely and set aside to macerate for 24 hours at room temperature. Each flask was, in turn, placed on a water bath and connected with a condenser, a second flask was so arranged that steam might be passed to the bottom of the first flask and after all of the connections were made, the water bath was heated to boiling and a current of steam was passed through the flask.

The distillate, which was collected in a small Erlenmeyer flask containing 10 mls of tenth-normal silver nitrate V. S. and 40-50 mls of distilled water, was received by means of a delivery tube reaching to the bottom of the solution which absorbed the hydrocyanic acid. After obtaining 50-60 mls of the distillate, the excess of the silver nitrate solution was determined by the "Volhard Method of Residual Titration," which, briefly, is carried out by acidifying the solution with nitric acid, adding a few mls of ferric ammonium sulphate T. S. for use as an indicator and determining the uncombined excess of silver nitrate V. S. by titrating back with a tenth-normal potassium sulphocyanate V. S. until the end-reaction is reached. This end-reaction, according to the United States Pharmacopoeia, is the formation of a permanent pale reddish tint. The number of mls of tenth-normal silver nitrate V. S. minus the number of mls of tenth-normal potassium sulphocyanate V. S. equals the number of mls of the silver solution which react with the hydrocyanic acid. Each ml which is used up represents 0.002702 Gm. of hydrocyanic acid, then the number of mls of the silver solution neutralized multiplied by the factor gives the number of grams of hydrocyanic acid present in the given amount of bark. By proportion, the percentage of acid may be determined as shown by the following figures, which are those of the sample taken from the south side of "Tree No. 1:"

Weight of bark taken..... 9.9790

Mils of $N/10$ $AgNO_3$ absorbed..... 6.5000

$0.002702 \times 6.5 = 0.017563$ Gm. of hydrocyanic acid in the bark used.

Wt. of bark used:Wt. of HCN found::100: x

9.9790 : 0.017563 ::100: x

$9.9790 x = 1.7563$

$x = 0.175998$ percent of hydrocyanic acid in the bark.

The reaction of the emulsin upon the amygdalin in the presence of water to form benzaldehyde, hydrocyanic acid, and glucose is shown by the following equation:



If the percentage of hydrocyanic acid is known, the percentage of amygdalin may be determined by the use of the following proportion, since each molecule of amygdalin yields one molecule of hydrocyanic acid:

Amygdalin : Hydrocyanic acid :: y : 0.175998

$\text{C}_{20}\text{H}_{27}\text{NO}_{11}$: HCN :: y : 0.175998

457.226 : 27.018 :: y : 0.175998

$$27.018 y = 80.4708$$

$$y = 2.9782 \text{ percent of Amygdalin in the sample.}$$

By like proportion the percentages of hydrocyanic acid and amygdalin were found in the other samples, the results of the twelve determinations being as follows:

Tree No. 1.....	South side	HCN 0.1760%	Amygdalin 2.9782%
Tree No. 1.....	Check	HCN 0.1740%	Amygdalin 2.9441%
Tree No. 1.....	North side	HCN 0.2125%	Amygdalin 3.5958%
Tree No. 1.....	Check	HCN 0.2097%	Amygdalin 3.5458%
Tree No. 2.....	South side	HCN 0.1806%	Amygdalin 3.0563%
Tree No. 2.....	Check	HCN 0.1800%	Amygdalin 3.0454%
Tree No. 2.....	North side	HCN 0.2188%	Amygdalin 3.7027%
Tree No. 2.....	Check	HCN 0.2161%	Amygdalin 3.6204%
Tree No. 3.....	South side	HCN 0.1682%	Amygdalin 2.6468%
Tree No. 3.....	Check	HCN 0.1709%	Amygdalin 2.8921%
Tree No. 3.....	North side	HCN 0.1890%	Amygdalin 3.1981%
Tree No. 3.....	Check	HCN 0.1804%	Amygdalin 3.0534%

The above series of determinations tends to show that the theory regarding the action of the sun upon the formation of the glucoside, amygdalin, in Wild Cherry Bark, is correct.

UNIVERSITY OF OKLAHOMA,
SCHOOL OF PHARMACY.

NEW YORK COLLEGE OF PHARMACY OFFICERS

At the annual meeting of the New York College of Pharmacy, held recently, the following officers were elected: President, Nicholas Murray Butler; Vice-President, Prof. Chas. F. Chandler, Dr. William Jay Schieffelin, and Dr. H. C. Lovis; Treasurer, Clarence O. Bigelow; Secretary, Thomas F. Main; Assistant Secretary, Charles W. Holzhauer; Trustees, Jacob Weil, F. K. James, Irving McKesson, Theodore Weicker and Edward Plaut.

CONTRIBUTED AND SELECTED

THE IDENTIFICATION OF VOLATILE OILS AND THEIR DERIVATIVES IN THE ANALYSIS OF MEDICINAL PREPARATIONS.

BY E. K. NELSON.

In the analysis of medicinal preparations the chemist is obliged to rely to some extent on his sense of smell. This is especially true in the detection of the essential oils. The odor is one of the most characteristic properties of a volatile oil, yet the nose is not always able to distinguish the presence of different oils in a mixture, especially if some of them are weak in odor, or present in small proportions. Also some substances of different classes possess quite similar odors as, for example, camphor (a ketone), and borneol (an alcohol).

As a number of volatile oils, or derivatives of them, are used in medicine for their therapeutic or antiseptic value, it is quite important that their detection be rendered as certain as the present state of our knowledge will permit.

The use for which the preparation is recommended will often be a guide to the analyst in determining what volatile oils are likely to be present.

If, by chemical methods, we can separate the volatile oil mixture into several groups or classes of compounds, such as phenols, aldehydes, etc., the odor of the products of such a separation affords a fairly safe means of determining its composition, even when there is insufficient material available to make any further examination.

The methods herein described are of a general character and are designed to assist in the examination of the volatile oil mixture obtained by the distillation of a medicinal preparation with steam. In case volatile oils are used merely as flavoring agents their identification is not so important, and they will be present in small quantity. But if used for their medicinal or antiseptic effect it will be desirable to obtain as large an amount as possible for the examination. A liberal sample of the preparation, neutralized if acid or alkaline, is submitted to steam distillation and the undissolved oily layer separated from the distillate.

The physical constants of the volatile oil mixture are first determined. The density is taken with a small Sprengel tube. The optical rotation and index of refraction are determined, and the boiling temperature is taken, keeping the fractions separate for each 10° difference and noting the amount and odor of each fraction. This will often afford a clue to the nature of the mixture and perhaps direct attention to some of the components.

ALDEHYDES (AND SOME KETONES).

Separation.—The oil (or a suitable fraction) is shaken with an equal volume of a saturated solution of sodium hydrogen sulphite in a separatory funnel and allowed to stand with occasional shaking for from 8 to 12 hours. If crystals separate they are filtered off; the aqueous layer is separated and the crystals added. To this solution add sufficient sodium carbonate to neutralize the acid sulphite, and distil with steam. Aldehydes will pass over into the distillate and will usually be recognized by their odor.

Benzaldehyde will indicate oil of bitter almonds; cinnamic aldehyde, oil of

cassia; pulegone, oil of pennyroyal; methyl nonylketone, oil of rue; thujone, oils of tansy, wormwood, or sage. (The last three are ketones which react like aldehydes with sodium hydrogen sulphite.)

ALDEHYDES: IDENTIFICATION.

Benzaldehyde: Liquid, b. p. 733 mm. 177°; d_{15}° 1.050–1.055; m. p. of semicarbazone, 214°; easily oxidized to benzoic acid.

Cinnamic aldehyde: Liquid, b. p. 252°; d_{15}° 1.054–1.058; m. p. of semicarbazone, 208°; oxidized by cold potassium permanganate to benzaldehyde and benzoic acid.

Citral: Liquid with lemon-like odor; b. p., 228–229°; m. p. of α -citryl β -naphtho cinchoninic acid, 200°.

ALDEHYDES: DETERMINATION.

Aldehydes and certain ketones (pulegone, carvone) can be estimated by the neutral sulphite method of Burgess.¹

PHENOLS: SEPARATION.

The oil left in the separatory funnel after treatment with sodium hydrogen sulphite, is shaken with two or three times its volume of a five percent solution of potassium hydroxide. After the undissolved oil has separated the aqueous layer is filtered through a wet filter and a slight excess of dilute hydrochloric acid is added. A turbidity at this point will indicate the presence of phenols. Methyl salicylate separates with the phenols.

If the odor indicates the presence of methyl salicylate take up the separated phenols in a little ether; separate the ether solution and transfer it to a small flask; add from 5 to 10 Cc. of 5 percent potassium hydroxide solution and warm on a water bath under a reflux condenser to saponify the ester. Then pass in carbon dioxide to saturation and extract the phenols (free from methyl salicylate) with ether. Acidify the aqueous solution and extract with ether; if methyl salicylate is present a residue of salicylic acid will be left on evaporating the ether, which can be identified by its melting point and by the violet color its solutions give when treated with ferric chloride solution.

If methyl salicylate is not present the saponification is omitted. Evaporate the ethereal solution containing phenols at room temperature. The phenols which may be encountered include thymol and carvacrol (from oil of thyme), eugenol (from oil of cloves), and diosphenol (from oil of buchu). Observe whether the separated phenol shows any tendency to crystallize (thymol, diosphenol). Thymol and diosphenol may be separated from the more "acidic" phenols as follows: Dissolve the mixture in 5 percent potassium hydroxide solution and distil with steam. Thymol and diosphenol will come over from the alkaline solution while ordinary phenol and most of the eugenol will remain in the distilling flask and can be recovered with ether.

PHENOLS: IDENTIFICATION.

Thymol: Crystalline, m. p. 50.5–51.5°. Identify by U. S. P. test (greenish blue color on adding one drop each of sulphuric and nitric acids to its solution in glacial acetic acid).

¹ *Analyst*, 29, 78, 1904; "The Volatile Oils," Gildemeister and Hoffman, 2nd edition, Vol. I, English translation, pp. 581–590.

Carvacrol: Liquid isomer of thymol, odor like thymol.

Diosphenol: Crystalline, m. p. 83° , peculiar minty odor. With ferric chloride its alcoholic solution gives a dark green color. Its solutions reduce ammoniacal silver nitrate and Fehling's solution.

Eugenol: Liquid, odor of cloves, m. p. of benzoate, $69-70^{\circ}$. Its alcoholic solution gives a blue color with ferric chloride.

PHENOLS: DETERMINATION.

The shrinkage in volume on shaking a measured quantity of the oil with 5 percent sodium hydroxide solution will indicate the proportion of phenols present. (See U. S. P. under *Oleum Thymi*.)

KETONES: SEPARATION.

The oil remaining after the extraction of aldehydes and phenols is now to be used for the separation of ketones. Advantage is taken of the property which ketones have of combining with semicarbazide to form crystalline, more or less difficultly soluble, and difficultly volatile semicarbazones. From $\frac{1}{4}$ to 1 gramme of semicarbazide hydrochloride and an equal amount of sodium acetate are dissolved in the least possible amount of water. The oil or its fraction (not over 5 Cc.) is added and enough alcohol is stirred in to give a clear solution. (Some NaCl may be precipitated.)

Let the mixture, which should be in a small stoppered flask, stand 12 to 24 hours and then dilute with water. If much ketone is present the oil which separates will soon crystallize more or less completely. If crystals separate, filter. In any event separate the oil, transfer it to a distilling flask, and distil with steam until the volatile oil is removed. If any ketone is present a crop of crystals should now separate from the residue left in the distilling flask if it is cooled and shaken. Filter off the crystals in a Büchner funnel and unite with any that may have separated previous to distillation.

To recover the ketones from their semicarbazones, transfer the semicarbazones to a saponification flask, reserving a portion for melting point and other determinations. Add from 5 to 10 Cc. of 25 percent sulphuric acid, stopper the flask, and heat on the steam bath until the crystals are decomposed. If camphor was present alone or in preponderating amount, it can be seen sublimed into the neck of the saponification flask. Cool and open the flask and note the odor.

KETONES: IDENTIFICATION.

Carvone: Liquid, from caraway and spearmint oils, b. p. $230-231^{\circ}$; m. p. of oxime, 72° .

Pulegone: Liquid, from oil of pennyroyal, minty odor, b. p. $222-223^{\circ}$; m. p. of semicarbazone, 168° .

Menthone: Liquid, from peppermint, pennyroyal, and buchu oils, minty odor, b. p. $207-208^{\circ}$; m. p. of semicarbazone, 184° .

Camphor: Crystalline, from camphor and rosemary oils, m. p. $175-176^{\circ}$; m. p. of semicarbazone, $236-238^{\circ}$; m. p. of oxime, $118-119^{\circ}$.

Thujone: Liquid, from the oils of thuja, wormwood, tansy and sage, peculiar odor like wormwood, b. p. $200-201^{\circ}$; m. p. of α -thujone semicarbazone, $186-188^{\circ}$; m. p. of β -thujone semicarbazone, $174-175^{\circ}$; can be identified by the method of Enz.¹

¹ *Schweiz. Wochenschrift für Chem. u. Pharm.*, 49, 337, 1911.

Methyl nonyl-ketone: Liquid, from oil of rue, odor like oil of rue, b. p. 226° , m. p. $+13.5^{\circ}$; m. p. of semicarbazone, $123-124^{\circ}$; m. p. of oxime, $46-47^{\circ}$.

KETONES: DETERMINATION.

The total quantity of ketones and aldehydes present can be estimated by the hydroxylamine titration method.²

This method will include those ketones which do not react with sodium sulphite or sodium hydrogen sulphite. In determining camphor by this method the results are found to be low.³

ALCOHOLS, ESTERS, ETHERS AND OXIDES.

The volatile oil remaining unacted on by the previous methods of treatment may contain alcohols (as menthol, sabinol, santalol, borneol and terpineol), esters (as menthyl acetate, and bornyl acetate), and phenol ethers (as methyl chavicol, safrol, anethol, and apiol), or oxides (as cineol).

Previous to the further examination of the oil it should be saponified by boiling with an excess of alcoholic potassium hydroxide in order to decompose any esters present. The alcoholic solution is then diluted with sufficient brine to precipitate the oil completely, and the brine solution can be used for the identification of organic acids derived from esters.

There is no good general method for separating the alcohols as a class, and the further examination will therefore be governed by the judgment of the analyst as to what alcohols are likely to be present.

The primary alcohols, such as geraniol, can be separated by the calcium chloride compounds or as acid phthalic esters, provided they are present in sufficient amount (at least 25 percent of the mixture).

The conversion of alcohols into esters difficultly volatile with steam will be successful in some cases. Thus by heating menthol with benzoic anhydride for two hours at $160-170^{\circ}$ menthyl benzoate is formed, and by distilling the mixture with steam the ester, being less volatile, remains in the distilling flask, is separated, and the menthol recovered by saponifying. The same method is, of course, applicable to any of the more stable alcohols provided they are esterified under these conditions and give benzoates slightly volatile with steam. The identification of the tertiary alcohols is even a more difficult matter, as they are more or less dehydrated on heating with acid anhydrides, but they are not often encountered in a medicinal preparation. When obtained in fairly pure form the alcohols may be characterized by the melting points of their phenyl urethanes. Sabinol is the alcohol occurring in oil of savin, and since this oil is frequently employed as an abortifacient it should not be overlooked. The best chemical method for identifying sabinol (which the writer has used successfully in one case) consists in oxidizing it by means of potassium permanganate to α -tanacetogen dicarboxylic acid (m. p. 140°). A mixture of the product with some of the known compound showed no depression in the melting point, which was considered sufficient proof of the presence of oil of savin in the preparation.

Safrol may be found in the higher boiling fractions of the oil, its boiling point being 233° . The characteristic odor of safrol will serve to direct attention to it,

² Nelson, *Jour. Ind. Eng. Chem.*, 3, 588, 1911.

³ U. S. Dept. Agr., *Bur. of Chem. Bull.* 162, 208, 1912.

and it can be identified by its oxidation product, α -homopiperonylic acid which melts at 127–128°. This is obtained by the oxidation of safrol with potassium permanganate. Another phenol ether which may be encountered in medicinal preparations is apiol. This boils at 294° and will therefore be found in the last fraction of the oil. Apiol has a faint parsley odor. On boiling with alcoholic potassium hydroxide apiol is converted into isoapiol which melts at 55–56°. Tri-brom apiol melts at 88–89°. Unless present in relatively large amount its identification, on account of its faint odor, is very difficult.

Cineol (b. p. 175°) is separated in the first fractions of the oil. Its odor, which suggests eucalyptus oil, may direct attention to it if there is not too much interfering material. Cineol is an important constituent of eucalyptus and cajeput oils and is often used in medicine in pure form, being more commonly known as eucalyptole.

It combines with phosphoric or arsenic acid giving unstable crystalline compounds from which cineol can be recovered by adding warm water. Its iodole compound (m. p. 112°) is characteristic, but rather difficult to prepare from impure cineol.

VOLATILE OILS OF THE U. S. P. (1916) 9TH REV.

Name.	Characteristic ingredient.
Bitter almond	Benzaldehyde
Anise	Anethol
Orange	Citral, citronellol, limonene
Cade	Sesquiterpenes
Cajuput	Cineol
Caraway	Carvone
Cloves	Eugenol
Cinnamon	Cinnamic aldehyde
Chenopodium	Ascaridol
Coriander	Linalol, pinene
Cubeb	Cadinen
Eucalyptus	Cineol
Fennel	Anethol, fenchone
Juniper	Cadinene, pinene
Lavender	Linalyl acetate
Lemon	Citral, limonene
Peppermint	Menthol, menthone, menthyl acetate
Spearmint	Carvone
Myristica	Terpenes, myristicin
Tar	.....
Pimenta	Eugenol
Pine needles	Pinene, sylvestrene, etc.
Rosemary	Borneol, camphor, bornyl acetate
Sandalwood	Santalol
Sassafras	Safrol
Mustard	Allylisothiocyanate
Turpentine	Pinene
Thyme	Thymol, carvacrol

SULPHUR COMPOUNDS, MUSTARD OILS.

The esters of isothiocyanic acid, characterized by their penetrating odor, constitute a special group of sulphur compounds.

Volatile mustard oil obtained from black mustard, *Brassica nigra*, is mainly

allylthiocyanate, and as this boils at 151° it will be found in the first fraction of the oil and will be recognized by its pungent odor.

After completing the examination of the volatile portion of a preparation it is often impossible to say whether some of the compounds found were used in the pure form or as ingredients of volatile oils. This is especially true of compounds such as camphor, thymol, menthol, or cineol which are often used in medicinal preparations.

For the guidance of the analyst in determining from his results what volatile oils are probably present, a list of the oils of the Pharmacopoeia, with their characteristic ingredients, is given.

LABORATORY OF ESSENTIAL OILS, BUREAU OF CHEMISTRY,
U. S. DEPARTMENT OF AGRICULTURE, WASHINGTON, D. C.

THE ANALYSIS OF PROPRIETARY MEDICINES.

AN OUTLINE.

BY W. S. HUBBARD.

For the examination of secret remedies there is not available any comprehensive work corresponding to the many good books on the subject of food analysis.

The number of substances which may be found in any mixture and the almost unlimited range of possibilities in the way of combinations of materials in different preparations sold for the same purpose makes it impossible to give any rigid procedure for the examination of such products. Nevertheless, certain tests and methods of examination which have been found useful can be described. The suggestions here presented were arranged primarily for the use of analysts in the Bureau of Chemistry who might have occasion to examine secret preparations sold for the treatment of various diseases.

There are certain determinations in the analysis of preparations of drugs which should always be made and other determinations which may be desirable, depending upon the medicinal claims or the use to which the preparation is to be put. Certain substances are very likely to be found in any such preparations, regardless of the use for which they are recommended. Suggestions as to the probable active constituents may be obtained by consulting the "Index to Diseases" in some Dispensatory or *Materia Medica*. When possible, tests should be made for each drug so mentioned. The absence of a drug generally used in treatment of conditions for which the remedy is recommended is often as important to establish as its presence. Very often by referring to "*Die Pflanzenstoffe*," Wehmer (1911), or to articles appearing more recently in the journals, it will be found that there are substances characteristic of certain drugs for which tests may be made. The finding of a certain ingredient does not always prove that a particular drug is present, but the absence of this ingredient will show the absence of the drug. This fact is very important when considering the medicinal claims. Of course account must be taken of any change this ingredient could undergo during manufacture. Bearing in mind the limitations mentioned, the following outline is offered as a general guide for the examination of proprietary medicines:

LIQUID PREPARATIONS.

The tests and determinations which should be made in all cases are:

Preliminary tests.....	Alcohols
Non-volatile matter.....	Emodin
Ash.....	Gums
Sugars.....	Resins
Glycerol.....	Color substances
Chloroform extract from acid solution.....	Volatile oils
Chloroform extract from alkaline solution.....	Inorganic material

Preliminary Tests.—The odor and taste of the preparation should be tested first, since these often help in the identification of the ingredients. A test should be made to ascertain the reaction, whether alkaline, acid or neutral.

Non-Volatile Matter.—The non-volatile matter or total solids should be determined preferably in a silica or well-glazed porcelain dish. In medicinal preparations substances which attack platinum are often present and some organic phosphorus compounds are always present in plant material and when ashed may attack a platinum dish. For the majority of preparations it is best to conduct the evaporation at or near 70° C. *in vacuo*.¹ Choose the amount of material so that the final weight of solids will be about 0.5 Gm. Dry to constant weight. With certain materials present it is practically impossible to obtain a constant weight and especially is this true of glycerol. When preparations contain large amounts of sugars it is best to evaporate to a syrupy consistency before putting in the vacuum oven. In some cases it is advisable to mix with sand. The sum of the non-volatile ingredients quantitatively determined should equal the amount of non-volatile material originally found. It is not always possible to secure an exact agreement between these figures, but an attempt should be made to approximate it as nearly as possible.

Ash.—The determination of ash is quite essential and very valuable in most instances if carried out properly. The method used in obtaining an ash depends upon the end in view and, therefore, varies with different products. The United States Pharmacopoeia, 9th Edition, page 589, describes a method of obtaining ash and it is the method which should be used in pharmaceutical preparations. A plant ash will be alkaline and usually contain small amounts of iron, sodium, potassium, and calcium salts, phosphates and chlorides with traces of magnesium and aluminum salts and silica. The degree of alkalinity is quite often of importance to determine whether alkalinity is due to plant material or to an added substance, either organic or inorganic. The original substance may be alkaline, a fact which should have been determined in the preliminary examination. When the ash is above 1 percent it is well to make quantitative determinations of the principal ingredients. Qualitative tests for the constituents should always be made no matter how small the amount of ash.

Sugars.—It is safe to say that a majority of the preparations contain some sugar. The methods used are those of *Bur. Chem. Bull.* 107² except that a definite volume may be taken. The sugars should be determined by means of the polariscope as well as gravimetrically.

Glycerol.—Glycerol may usually be detected by the behavior of the non-volatile matter. The best qualitative tests for the identification of glycerol are those of M. G. Denigés.³ The quantitative method for wines⁴ is generally ap-

plicable to medicinal preparations. A duplicate determination is made and after weighing is made up to definite volume and determined with the immersion refractometer and reference to Wagner's "*Tabellen Zum Eintauch-Refractometer*," Sondershausen (1907).

Alcohol.—The determination of alcohol must be carried out with care, since medicinal preparations usually contain a great variety of substances. The official method is that of the United States Pharmacopoeia, 9th ed., 592. The specific gravity determination should be supplemented with one made with the immersion refractometer to prove the presence or absence of methyl alcohol.⁵

Acid Chloroform Extract.—The alcohol is evaporated from a quantity of the preparation by heating on a water bath and the residue placed in a separatory funnel. It is made distinctly acid with normal sulphuric acid, shaken out several times with chloroform, using about 25 Cc. the first time and less the succeeding times. Most of the chloroform is distilled off, the remainder is transferred to a beaker and evaporated to dryness on a water bath. If any considerable amount of material is extracted it is well to purify by dissolving the residue in water and shaking out again. In some cases it is desirable to substitute ether for chloroform since some phenols are more soluble in this solvent. Caffeine, berberine, hydrastine, antipyrin, acetanilid, phenacetin, salicylic acid, benzoic acid, salol, phenol, cresols, guaiacol, and hexamethylenamine are among the more important substances extracted by chloroform. Phenacetin, phenol, cresols, guaiacol, and salol are very slightly soluble in water. Phenacetin and salol are very seldom found in liquid preparations. For the estimations of caffeine, antipyrin and some of the other more common synthetic drugs, the work of W. O. Emery⁶ and his co-workers should be consulted.

Alkaline Chloroform Extraction.—The original material which has been made acid and extracted with chloroform is now made alkaline with ammonia and again extracted with chloroform, using the procedure as described in the acid extraction. A second purification is necessary and sometimes even a third or fourth. After all extractions are made, the chloroform must be washed two or three times with water. When cocaine is present, ether, petroleum ether, or benzene is preferable to chloroform and care must be taken not to hydrolyze the cocaine. The purified material is dissolved in a very slight amount of 0.5 *N* or 0.1 *N* sulphuric acid and tested for alkaloids with Wagner's, Mayer's, picric acid, phosphomolybdic acid and other alkaloidal test solutions. Wagner's and Mayer's reagents are the most common, and while either precipitates nearly all of the alkaloids it sometimes happens that the quantity of alkaloids present is very small and the precipitate with Wagner's or Mayer's reagents is so slight that it may be overlooked, while some other reagent may give a precipitate which is quite distinct. It should be remembered that morphine may not be found here since it is only very slightly soluble in chloroform. Berberine and hydrastine may come out here as well as in the extract from the acid solution. Care must be used in the extraction of alkaloids since a number are easily destroyed by heat, or by excesses of acids or alkalis.

Emodin.—Since it is estimated that at least 50 percent of the nostrums contain a vegetable cathartic it is important that a test be made for them.⁷

Gums.—If the preparation contains much alcohol there cannot be any con-

siderable amount of gum present. To one or two cc. of material add alcohol. Any precipitate formed should be filtered off, washed with alcohol, dissolved in the smallest quantity of water possible and reprecipitated with absolute alcohol. From the nature of the precipitate it is usually possible to distinguish a gum. An article by L. A. Congdon⁸ is helpful in many instances.

Resins.—If the material is an aqueous solution, then it can not contain much resin. To one or two cubic centimeters of material add water until there is no further precipitation. Wash the precipitate with water, dissolve in a small quantity of absolute alcohol and reprecipitate with water.

Coloring Material.—The coloring material most frequently met with in nostrums is caramel. This is identified according to the method of Amthor.⁹ Alkanet, cudbear, cochineal and carmine are also frequently found in this class of preparations.

Inorganic Material.—The inorganic material can be determined in the ash in many cases. It is well in making qualitative tests to run the material through the group separations.

Arsenic.—The Gutzeit test is usually used in qualitative work.¹⁰ A very rapid and accurate quantitative method in which arsin is passed into a solution of mercuric chloride and the resulting calomel weighed, is that of Claude R. Smith.¹¹

Antimony.—Some of the material is made acid with hydrochloric acid, a platinum strip is placed in the solution and on top of this is placed a piece of pure zinc, forming a platinum-zinc couple. Any good text on qualitative analysis will give this method in more detail. It is well to carry on another test to which has been added a very small amount of antimony, say the minimum dose of tartar emetic, and also a blank with the reagent. The test is very sensitive and may be carried out in the presence of large amounts of organic material.

Volatile Oil.—If volatile oils or other volatile materials are present they can usually be detected during the determination of alcohol either by the odor or color of the distillate, which in some cases has a milky appearance. When volatile oils are present in considerable quantity or it is of importance that their identity be known, the method* of Alfred Hoffman¹² is helpful rather than such large works as Gildemeister¹³ and Hoffman.

POWDERS, PILLS AND TABLETS.

Determination of, separation of, or tests for the following are made:

Preliminary tests.....	Chloroform extract from acid solution
Coating.....	Chloroform extract from alkaline solution
Non-volatile material.....	Emodin
Ash.....	Gums
Sugars.....	Resins

INORGANIC MATERIAL.

Preliminary Tests.—The preliminary tests given under Liquid Preparations should be supplemented in the case of powders, pills and tablets by grinding to a fine powder and examining under a microscope for starch and plant or animal tissue. Very frequently several different crystalline compounds can be found, thus giving some idea of the number of ingredients present. Tests of solubility in the more common solvents should be made.

* The best method for volatile oil, however, is that given in a paper by E. K. Nelson, appearing in this issue.

Coating.—The coating from pills and tablets should be removed when possible. This can usually be done by soaking in water and then scraping carefully with a knife. The average weight before and after removing the coating should be determined. Qualitative tests should be made for all probable ingredients of the coating. The usual coating is made of starch, sugar or calcium carbonate and sometimes all three. It is frequently colored and flavored. Special coatings are employed in certain cases, as for enteric pills or tablets, which are coated with salol, a fat, stearic acid, or other material which will not dissolve before reaching the intestines.

Non-Volatile Material.—In determining the non-volatile material as in all determinations of pills and tablets it is best to remove the coating and then powder before proceeding. As a general rule there is very little volatile material present, except moisture or water of crystallization. When water of crystallization is present the drying should be conducted at a temperature sufficiently low to avoid loss of this water or at such temperature that it will be completely driven off. In the latter case care must be taken that the temperature is not great enough to injure other ingredients. The conditions should be recorded.

Ash.—The method is the same as that given under Liquid Preparations.

Sugars.—A great many pills and tablets are sugar-coated and if sugar is found in the coating it should be so noted. In powders and tablets, especially uncoated tablets, lactose is more often used than sucrose.

Chloroform Extract from Acid Solution.—In a large number of cases it is not necessary to use a solution of the material or to make acid; it is sufficient to extract directly with chloroform. If an alkaloid is present with other material it is well to convert the alkaloid to a salt by the addition of acid before extracting the other material with the chloroform. The references have already been given under Liquid Preparations.

Chloroform Extract from Alkaline Solution.—For alkaloids it is best to first dissolve out soluble substances from the sample in about 0.05 *N* sulphuric acid, and then make the solution alkaline and extract with chloroform as directed under Liquid Preparations.

Emodin.—The powdered material may be moistened with hydrochloric acid and emodin extracted directly. (*Loc. cit.*)

Gums, Resins and Inorganic Material.—Tests for these substances are made by the methods used for Liquid Preparations. It must be borne in mind that some of the materials used as excipients, adhesives, disintegrators, absorbents, lubricants and fillers may be found here.¹⁴

The outline given above is suggested as a general procedure and must be modified more or less in specific instances. Moreover, each product must be studied in the light of all the knowledge which can be obtained as to its probable composition, and in many cases special methods or combinations of methods will be found necessary.

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DETERMINATION OF ALCOHOL AND WATER IN OFFICIAL ETHER.

BY A. B. LYONS.

A timely article by R. L. Perkins appeared in the May issue of the *Journal of Industrial and Engineering Chemistry* on the determination by specific gravity of the percent by volume of alcohol and water in official ether. The specific gravity (apparent) of the ether at $\frac{25^{\circ}}{25^{\circ}}$ is taken, also that of the same ether after

dehydration by potassium carbonate. From these data, by aid of charts plotted from data obtained through accurate determinations of the specific gravity of a sufficient number of mixtures of ether, alcohol and water in known proportions, the percentages of alcohol and of water in any given sample are readily deduced.

Examination of the plotted "curves" shows that these for practical purposes may be considered to be straight lines so that, within the narrow range covered by the charts, a certain difference in specific gravity corresponds with a practically uniform difference in percentage of water or of alcohol, as the case may be—the two factors naturally being quite distinct. It is therefore possible to deduce simple formulas by which the proportions respectively of alcohol and of water in a given sample of ether may be deduced from the observed specific gravities of the sample before and after dehydration.

I have not gone into the question of the standard temperature assumed for the measurement of the respective fluids—a matter of some importance since these differ greatly in their coefficients of expansion. Neither have I considered the question of condensation of volume in the mixing of the fluids, which, of course, has its effect on the volume percentage of the several fluids. I have simply used the data as offered in Mr. Perkins' paper and embodied in his charts. From these I have deduced the following mathematical formulas which will give percentages sufficiently exact for all practical purposes.

The specific gravity of the sample is to be taken accurately at $\frac{25}{25}^{\circ}$ C., also the specific gravity after dehydration with dried potassium carbonate.

Let Dif. stand for the difference between these and Dif.' for the difference between the specific gravity of the dehydrated sample and that of absolute ether, viz., 0.70968. Then:

Dif. \times 895 = Volume percent of alcohol.

Dif.' \times 185.5 = Volume percent of water.

Incidentally I have made comparison of Mr. Perkins' figures for sp. gr. of mixtures of ether and alcohol with those given by Dr. Squibb (*Ephemeris*, p. 598).

Dr. Squibb gives his specific gravities on the basis $\frac{25}{4}^{\circ}$ C., and his mixtures contained a small (known) quantity of water. Making due allowance for the water and bringing the data to the basis of $\frac{25}{25}^{\circ}$, the figures are approximately:

SPECIFIC GRAVITY OF MIXTURES OF "ABSOLUTE" ALCOHOL WITH "ABSOLUTE" ETHER.

Vol. percent.	Ether.	According to Perkins.	According to Squibb.
100		0.70968	0.70958
99		0.71089	0.71079
98		0.71198	0.71199
97		0.71312	0.71317
96		0.71415	0.71432

Analysis of the figures shows that there is a distinct condensation of volume when ether is mixed with alcohol, amounting to about 0.060 volume percent for 1 percent of alcohol. Condensation between water and ether is greater, being something like 0.34 percent for 1 percent of water.

The requirements of pharmacy, however, do not demand a high degree of exactness in determinations of the small proportions of alcohol and of water contained in official ether. I believe that the formulas I have given will be found to give results practically correct within the limits of experimental error.

NOT NEW BUT WORTH KNOWING.

Every one who has used Fehling's solution for quantitative determinations knows the practical difficulty of fixing the end point of the titration. An expedient which overcomes the difficulty was taught me when I was a student, by whom devised I do not know, but it certainly works like magic.

All that is necessary is to add to the solution prepared in the usual manner for titration 0.5 to 1.0 gramme of calcium carbonate. In presence of this, the cuprous oxide formed separates from the solution promptly as it is formed so that the supernatant fluid becomes quickly clear and transparent after each successive addition of the reagent. The titration is thus concluded in a very short time, the end point (disappearance of the blue color) being certain and sharp.

The test should always be made in a flask rather than in an open dish, and should be concluded as rapidly as possible to avoid reabsorption of oxygen from the air. For exact results, it is well to make a preliminary titration to determine approximately the quantity of reagent that will effect reduction of the sugar; then in a second experiment, add rapidly nearly all of the reagent that will be required, finishing the titration then with as little delay as possible.

SUGGESTED FORMULAS FOR PARAFFIN FILMS.*

BY TORALD SOLLMANN, M.D.

The popular propaganda for "Ambrine" has brought the subject of paraffin-film treatment of burns into prominence. The results are said to be better than are obtained by other methods of treatment; however, neither "Ambrine" nor any other preparation could accomplish "miracles." The principle of the method is supposed to be mainly if not solely mechanical; the film of paraffin, being impervious, forms a protection to the exposed tissues. On the other hand, it can readily be removed when desired. Perhaps the paraffin also forms a sort of scaffolding for the feeble granulations.

The method at least deserves scientific investigation. Such investigation, however, is hampered by the optimism which has developed in the minds of even medical men, regarding the efficacy of this treatment, resulting from the sensational accounts of the use of the secret French preparation, "Ambrine," in the present war. Another serious obstacle is the secrecy of the preparation so exploited, since it complicates any attempt at improvement. If the principle of paraffin films is a useful one, it is open to question that "Ambrine" is the *ne plus ultra* of these films. It is one of the disadvantages of the secrecy that we do not know what attempts have been made to secure the best possible preparation; and in the absence of this knowledge, it is reasonable to suppose that the preparation is capable of modifications which might be improvements. Perhaps extensive investigations have already been made in this direction; but of this we know nothing. If they have been made, we do not know whether or not all the possible lines of modification were taken into account.

The subject was brought to my attention by Dr. George W. Crile, and after weighing the foregoing considerations, it has seemed to me worth while to devise a series of paraffin combinations, so that the advantages of the various types of films could be tried out fairly. Since I started on this investigation, two Ameri-

Editor's Note—In an article by P. N. Leech, Ph.D., in the *Journal of the American Medical Association*, May 19, 1917, p. 1497, *et seq.*, the following formula for a paraffin film is given: Paraffin (M. P. by U. S. P. method 47.2° C.), 97.5 Gm.; asphalt varnish, 3 to 5 drops; olive oil, 1.5 Cc. The paraffin described in the U. S. P. does not seem to answer the purpose as well as paraffins ranging in melting points about 47° C.; that used by Dr. Leech was from the Standard Oil Co., melting point given by producers at $120-122^{\circ}$ F. The asphalt varnish was obtained from Remien and Kuhnert Co., Chicago.

The method of preparation is described: "About 10 Cc. of asphalt varnish (B. Asphaltum) is placed in a beaker and heated on a steam bath for one-half hour. From 3 to 5 drops, delivered from a 1 Cc. pipette, are then placed in a casserole, and 1.5 Cc. of olive oil added. The mixture is heated and stirred for a few minutes until perfect solution is effected. To this is then added, with stirring, the paraffin, which has been previously melted. When the preparation is cooled, a brown solid is obtained. The physical factors of this paraffin mixture are: melting point 45.4° C. (U. S. P. method); plasticity, 28.5; ductility, 29; it is very pliable and strong at 38° C., and adheres exceedingly well to the skin, although it detaches easily."

Some manufacturers of these preparations add eucalyptol and also coloring matter, alkannin and gentian violet.

* From the Pharmacological Laboratory, Western Reserve University, School of Medicine, reprinted from *Journal A. M. A.*

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can preparations have been placed on the market. Both have followed the French example of keeping the composition secret, and both therefore are open to the foregoing objections. The secrecy makes a systematic comparison of the different films difficult. However, I have compared the physical properties of these commercial preparations with the formulas which I have given herein. Since experimentation with preparations of unknown composition cannot add much of permanent value to our knowledge, and is apt to be largely wasted, it seems worth while to publish the formulas and properties of our preparations without awaiting their clinical trial. Indeed, the very object of this publication is that they may receive such clinical trial.

In planning the formulas for these waxes, I intentionally avoided a slavish imitation of the pretended composition of the proprietary preparations. On the contrary, I have aimed to make the formulas simple, each containing at most two constituents; to make the manipulations so simple that the preparations could be made independently, and if possible extemporaneously, by any pharmacist, and would thus be accessible to any surgeon who cared to try them; to vary these formulas so as to produce preparations with properties which differ considerably, and to devise simple methods for comparing the relevant physical properties. I have intentionally refrained from adding any deodorant, antiseptic, coloring matter, etc. I believe that the first step should be to determine the suitability of these films from a purely mechanical standpoint. After the suitable type or types have been selected, it will be an easy matter to modify them by such additions.

The significant properties of the films appear to concern in the first place the melting point. This should be not much lower than 48°C. , and not much higher than 53°C. Within this range, I incline to believe that the melting point is practically immaterial.

The hardness of the wax may be important. The harder the wax, the more firm is the support which it affords; but, on the other hand, the softer films are probably more "soothing." It is quite possible that different cases may demand different types of films in this respect.

A further important property is the strength of the film (fragility). It involves at least two factors: (1) ductility, the coherence of the film against pulling and kneading—a property which reflects the resistance of a film against stretching; and (2) pliability, the resistance to fracture on bending.

The first of these (the resistance to pull) can be determined only roughly by comparing methods; there is no convenient quantitative measure of this, although one could perhaps be devised. The resistance to breaking can be determined quantitatively in relation to the temperature: the more fragile films will break on bending at a relatively high temperature, while the more plastic films can be bent at relatively low temperatures.¹

General Methods of Preparation.—The mixtures were prepared simply by melting the ingredients in a water-bath, after which the mixture was heated to 145°C. for sterilization.

Melting Point Determination.—This was attempted by the U. S. P. method, which consists in drawing the melted wax into a capillary tube; cooling for a cer-

¹ Further experience indicates that ductility may be expressed quantitatively by the temperature at which a thin film breaks sharply when pulled in a straight line.

tain period; attaching the tube to a thermometer; immersing in a water-bath, and heating slowly until the melted wax begins to rise in the capillary tube.

The last clause of this method was not found very satisfactory with the more viscid fats: the slow heating gave a variable melting point usually several degrees higher than that obtained by immersing the capillary directly into the bath, which had previously been heated to the required temperature. The explanation probably lies in the viscosity of the oil when the column in the capillary tube is heated throughout, as it must be when the heat is raised gradually. Evidently the lowest melting point must be the correct one, so that our modification appears fully justified.

Determination of Hardness.—This was determined at 22° C. by trying the cakes of the preparations on each other, seeing which would indent the other. Since absolute accuracy was not necessary, the preparations were made into a limited number of groups, designated by Roman numerals, according to their hardness.

Formation of Membranes.—It was aimed to produce films under conditions which would approach physically those of clinical use. For this purpose, the preparations were melted on a water-bath. A sheet of plate glass was meanwhile warmed to from 38 to 40° C. by immersion in a water-bath kept at this temperature. When the paraffin was melted, the plate was taken from the bath and the melted wax poured on the moist plate glass and spread with a hot spatula. The plate with the film was then immediately immersed in the 38 to 40° C. water, kept there for a few minutes, and then lifted off with a spatula. This detachment of the film furnishes a preliminary idea of its general properties.

Further experience indicates that the method of preparing these films does not affect materially their significant behavior to temperature limits. Any method that yields fairly thin films may therefore be employed. At present, I make the films by pouring a teaspoonful of the melted wax on the surface of water at about 40° C.

Determination of Strength of Film.—The films were placed in a bath at 38° C. and then gently manipulated by kneading and pulling, noting their coherence, thinness of membranes that could be formed from them; the ease with which they are torn on pulling, etc.

Determination of Breaking Temperature.—The films were immersed in a bath of a given temperature for a few minutes and then bent on themselves. At the lower temperature, this causes the film to break sharply at the crease. At the higher temperatures, the films can be doubled without breaking.

The temperature at which breaking just occurs varies for each wax, and appears to be an objective and very useful index of its fragility. Since great accuracy was not necessary, the temperatures were determined only approximately, and at intervals of 5 degrees. In the table, the lower temperature is that at which the film breaks; the upper temperature that at which it can be bent without breaking.

Determination of Ductility Temperature.—The films are placed in warm water and pulled. The water is gradually cooled, noting the temperature when the film breaks with a straight fracture, without stretching.

PREPARATIONS AND THEIR PROPERTIES

Formula No.	Composition	Melting Point (C.)	Degree of Hardness at 22° C.	Fractility Temp. (Break on Bending) (C.)	B. Strength of Film at 38° C.; (Break on Kneading and Pulling)	A. Formation of Membrane
0 = "Ambrine"		51	III	18-24	A. Coherent; detaches easily; fairly soft B. Very good resistance and pulls very thin; still ductile at 33°	
00 = Petrolatum (yellow)		50.5	0	.....	
000 = Paraffin (stock)		53	...	.....
1 = Paraffin Petrolatum	000 100 00 20	52	II	30-35	A. Greasy, crumbly and weak, but detaches easily and sufficiently intact B. Poor resistance, though better than 2	
2 = Paraffin Petrolatum	000 100 100 100	49.5	I	35-35	A. Weak, greasy, noncoherent; difficult to detach; unworkable B. Very weak; crumbles	
3 = Paraffin Petrolatum	000 100 00 300				A. Ointment consistency at 43° C.; too soft to use	
4 = Paraffin ² Venice turpentine	110 72	52.5	II	35-35	A. Detaches well but soft and crumbly; slightly greasy B. Soft and crumbly	
5 = Paraffin ³ Petrolatum	110 11 11 11	52.5	III	35-37	A. Rather weak, although sufficiently coherent to form a film B. Soft and crumbly; very weak	
6 = Paraffin ³ Japan wax	110 22 22 22	52	IV	35-35	A. Hard but crumbly; not sufficiently coherent B. Very crumbly (practically like 5)	
7 = Japan wax		50	IV	37-?	A. Does not solidify promptly when undercooled; does not detach except by scraping B. Hard, brittle and crumbly; sets very slowly	
8 = Paraffin ³ Olive oil	110 11 11 11	53	III	35-35	A. About like 11 B. Greasy and quite crumbly; very weak	
9 = Paraffin ³ Castor oil	110 5 5 5	53.5	IV	30-35	A. Solid, but not very strong, and rather crumbly B. Quite brittle and crumbly; soft	
10 = Paraffin ³ Yellow beeswax	110 11 11 11	52.7	IV	25-30	A. About like 11 B. Fairly strong; can be pulled very thin; somewhat more brittle than "Ambrine"	
11 = Paraffin ³ Spermaceti	110 11 11 11	53.5	III	25-30	A. Soft, but very coherent, and detaches well; very promising B. Good, about like "Ambrine"	
12 = Paraffin ³ Stearic acid	110 11 11 11	52.25	IV	25-30	A. About like 11 B. About like "Ambrine," a little harder and probably a trifle more brittle	
13 = Paraffin ³ Cacao butter	110 11 11 11	53	III	35-37	A. Soft, but detaches well; very promising B. Soft and breaks	
14 = Paraffin ³ Cacao butter	110 22 22 22	52	III	35-37	A. Not greasy, but soft and crumbly, and not sufficiently coherent B. Soft and fragile	
15 ² = Paraffin ³ Resin	110 11 11 11	53.5	V	30-30	{ A. Very slightly greasy; detaches and coheres; but not quite as good as 16 B. Like "Ambrine," or stronger	
16 = Paraffin ³		52	IV	30-30	A. Detaches beautifully; very promising B. Rather more brittle than "Ambrine," but pulls out well; ductile at 36.5°; not at 33°	

PREPARATIONS AND THEIR PROPERTIES (Continued)

17 = Paraffin, "embedding," M. P. 48° C.	48	III	25-30	A. Coherent and detaches quite well B. Practically like "Ambrine"
18 = Paraffin, "embedding," M. P. 52° C.	51.5	IV	24-25	A. Good film, but rather fragile B. About like "Ambrine," a little harder and more fragile and not quite as plastic
19 = Paraffin ³ Cera flava	110 22	IV	25-30	A. Strong and coherent film B. About like "Ambrine," slightly more brittle
20 = "Mylene" ⁴	52	IV	16-18	A. Coherent but detaches with difficulty B. About like "Ambrine," slightly more brittle
21 = "Parresine" ⁴	48	II	25-25	A. Soft, but coheres well B. About like "Ambrine," but slightly more fragile
22 = Yellow beeswax (62 : 65 U. S. P.)	(62 : 65 U. S. P.)	II	7-16	A. Dry, strong and coherent; not easily detached B. Fair resistance
23 = Paraffin ³ Liquid Paraffin	110 5	II	33-36	B. Just ductile at 36.5°; not at 33°
24 = Paraffin ³ Liquid Paraffin Beeswax	110 5 10	II	33-33	B. Just ductile at 36.5°; not at 33°
25 = Paraffin ³ Asphalt Varnish	110 11	II	25-28	A. Dry, very extensible, coherent, somewhat adhesive B. Just ductile at 28°
26 = Paraffin ³ Asphalt (Trioidad or Bermudez Asphalt Cement, 1 to 3%; or Texas Asphalt, 1%)	110 1 to 3	IV	27-29.5	A. Very pliable, somewhat adhesive B. Just ductile at 33-36°
27 = Paraffin ³ Texas Asphalt	110 5	IV	29.5-33	A. Pliable, but too adhesive B. Just ductile at 33-36°
28 = "Soft Paraffin"	50.5	III	26.5-28.5	A. Much more ductile than Formula 16 at body temperature B. Just ductile at 28.5°; not at 26.5°
Cacao butter	32.8	Not determined personally		
Stearic acid	56	Not determined personally		
Spermaceti	(42-50 U. S. P.)	Not determined personally		

¹ V is highest; zero lowest.² Resin and Venice turpentine do not appear to mix well with paraffin, and must be kept stirred.³ The brand of paraffin used in these experiments was "Parawax," a trade name applied to paraffin marketed by The Standard Oil Co. of Indiana. It is a rather hard paraffin; softer varieties would be preferable. It should be remembered that the various oil refining companies have individual trade names of their own for their products.⁴ Preparations Nos. 20 and 21 are proprietary formulas.

The lower the temperature at which the film begins to break on bending or pulling, the greater is its pliability or ductility.

The individual preparations and their properties are shown sufficiently in the accompanying table. It is probable that clinical trials will introduce new factors so that the usefulness of the various preparations cannot be judged altogether from the physical results given in this paper.

(The cost of these preparations is low; paraffin, the principal ingredient, is at present about 15 cents per pound.)

For purposes of simplification the different preparations can be arranged into a number of groups. The most distinctive feature is the hardness, ranging from the stiff beeswax to the gelatinous petrolatum. It is this property, more than any other, which determines the mechanical usefulness of the individual preparations for special purposes. Aside from this, it is desirable that the preparation should have a low melting point, and that it should remain pliable at a relatively low temperature.

With these points in mind, the following grouping appears most promising; it is arranged in descending order of hardness, giving the number of the formulas under each class, in the order of preference:

Class I: Paraffin, Formulas 17, 18 and 16.

Class II: Paraffin-wax mixtures, Formulas 11, 12, 10, 19, 15 and 6.

Class III: Paraffin-Asphaltum mixtures, Formulas 25 to 27.

Class IV: Paraffin-oil mixtures, Formulas 13, 23, 24, 8, 14, 9 and 4.

Class V: Paraffin-petrolatum mixtures, Formulas 5, 1, 2 and 3.

CLASS I.—*Simple Paraffins* (17, 18, 16).—These comprise the commercial paraffins of melting points of from 48 to 53° C. They are quite hard (generally IV of the scale), and break between 25 and 30° C. They would be used when a relatively stiff film is desired, which would separate clean from the wound. Their mechanical properties are quite similar to Ambrine. They are perhaps somewhat more fragile, but the difference does not seem important. They are the simplest and cheapest agents. Presumably any available "paraffin" could be used; but when a choice is possible, samples melting close to 50° C. would be preferred. It should be understood that commercial paraffins are complex mixtures of hydrocarbons and that the various commercial brands may differ in their physical properties, such as melting point, hardness and flexibility. It is doubtful, however, whether these differences are of practical importance in the clinical use.

CLASS II.—*Paraffin-Wax and Related Mixtures*.—The addition of small amounts of various waxes, etc., modifies the properties of paraffin somewhat; but the modifications are relatively slight, and I doubt whether they have any real importance. I tried mixtures with beeswax, 10 percent (Formula 10) and 20 percent (Formula 19); and with 10 percent of one of the following: spermaceti (Formula 11); stearic acid (Formula 12); and resin (Formula 15). Nos. 15 and 19 have rather high melting points. The others stand so close to the simple paraffin that I doubt the advisability of giving them an extended trial. If experimentation should appear desirable, I would advise Formula 11 (the spermaceti mixture); or if this is too expensive, Formula 12 (stearic acid mixture).

The *proprietary mixtures of secret composition* also belong in this general class:

"*Ambrine*" (Formula o), as I have said, approaches very closely to the simple paraffins.² It is rather more plastic and less brittle; but the difference does not impress one as important.

"*Mulene*" (Formula 20) also comes very close to the simple paraffins, and to *Ambrine*. The same remarks apply to both.

"*Parresine*" (Formula 21) is a rather different article. It is softer and more fragile than *Ambrine*; but on the whole it does not depart seriously from the paraffin type.

CLASS III.—*Paraffin-Asphaltum Mixtures*.—These are distinctly more pliable and more adhesive than the plain paraffin, and can be made into thinner films. Theoretically, these properties would be advantageous; practically, I doubt whether the advantages are important. The paraffin and asphalt do not form perfect mixtures and must be kept stirred.

A mixture made with 10 percent of "asphalt varnish" possessed the desirable qualities, but since the composition of the asphalt furnished is complex and probably variable, no further experiments were made. Other preparations were made with the semi-solid asphalts, such as Trinidad or Bermudez "asphalt cement," from 1 to 3 percent; or Texas asphalt (Formula 26). These are not quite so plastic as the varnish formula, but nevertheless are quite promising. Higher proportions are less desirable, such as 5 percent of Texas asphalt in Formula 27.

CLASS IV.—*Paraffin-Oil Mixtures*.—These are considerably softer than the paraffins, and also considerably weaker (more friable); however, they are fairly coherent. They would perhaps be preferable in the early stages of treatment, since they would be somewhat emollient. The most promising is the mixture with 10 percent of oil of theobroma (cacao butter, Formula 13); then come the one with 5 percent of liquid petrolatum (Formula 23), and this with beeswax (Formula 24), and that with 10 percent of olive oil (Formula 8). That with 20 percent of cacao butter (Formula 14) is scarcely sufficiently coherent. That with 5 percent of castor oil (Formula 9) was unpromising. The mixture with 20 percent of Venice turpentine (Formula 4) had the properties of Class V, but appeared undesirable.

CLASS V.—*Paraffin-Petrolatum Mixtures*.—These differ materially from the other classes. They are very soft and might be termed "solid ointments." They are rather greasy, and crumble easily; No. 3 (75 percent petrolatum) was really a cerate and would not form a workable film. No. 2 (50 percent petrolatum) would also be practically unworkable. Twenty percent petrolatum (Formula 1) and 10 percent petrolatum (Formula 5) form weak, but manageable films. The last (Formula 5) would be worth trying when a very soft film is desired, for instance, on very sensitive surfaces.

Application to the Skin.—A selected series of preparations was applied to the skin in the same manner as they would be used clinically. A strip of skin about an inch wide was painted with the melted wax; on this was laid a very thin layer of cotton and over this was painted another layer of the wax. The adjacent strip of the skin is now painted with a second preparation, and so on. (This will be a very suitable method of comparing the preparations clinically.) The strips are

² In a preliminary study of paraffin mixtures in the A. M. A. chemical laboratory, *Ambrine* was found to contain about 96 percent unsaponifiable matter (paraffin).—ED.

covered with a bandage and left on for at least an hour. The following presented no marked differences:

"Parawax" Paraffin..... (16)	"Mulene"..... (20)
Paraffin-spermaceti..... (11)	"Parresine"..... (21)
Paraffin-stearic acid..... (12)	Paraffin-beeswax..... (10)
Paraffin, 48°..... (17)	Paraffin-resin..... (15)
Paraffin-theobroma..... (13)	Paraffin-liquid paraffin..... (23)
"Ambrine"..... (0)	Paraffin-beeswax-liquid paraffin.... (24)
Paraffin-petrolatum..... (5)	Paraffin-asphaltum mixtures (25 and 26)

Paraffin-asphaltum gave a film that was somewhat adherent, but that was smooth, strong and so pliable that it could be wound about a pencil without cracking.

CONCLUSIONS.

The preparation and mechanical properties of a series of paraffin-film mixtures suggest that the most important mechanical property of such films from the therapeutic standpoint is their hardness. It is suggested that several degrees of hardness might possess advantages under different conditions.

Surgeons who desire to experiment with the paraffin treatment of burns are urged to use simple preparations of known composition, so that their results can be compared, and so that any deficiencies may be met, and improvement made intelligently.

The physical and mechanical properties of a series of paraffin and mixtures are described. *Ordinary paraffin*, melting between 48° and 53° C. (118-128° F.), preferably about 50° C. (122° F.), appears to possess practically the mechanical properties of the French preparation, and is urged as the standard of comparison.

Paraffin-Asphaltum (Formula 26) gives a preparation of superior pliability.

The following additional formulas are suggested for clinical trial as preparations of increasing softness:

Paraffin-Spermaceti (Formula 11): Paraffin, 10 parts; spermaceti, 1 part.

Paraffin-Theobroma (Formula 13): Paraffin 10 parts; theobroma oil, 1 part.

Paraffin-Petrolatum (Formula 5): Paraffin, 10 parts; yellow petrolatum, 1 part.

In comparing these films with each other, or with proprietary formulas, claimed points of superiority should be clearly established. Finally, experience may show it to be advantageous to add to the simple combinations I have suggested one or more medicinal agents such as resorcin, eucalyptus, scarlet red, etc.

PHARMACEUTICAL FORMULAS

PROPOSED FOR A. PH. A. RECIPE BOOK.

A complete list of these Proposed Formulas since February 1912 was published in an index in the December 1916 number of the JOURNAL. The Committee will continue its work in monthly instalments in this Department of the JOURNAL. Members of the A. Ph. A. are earnestly requested to send suitable formulas and also criticisms of those published to the Chairman.

Otto Raubenheimer, Brooklyn, N. Y.

Soda Fountain Requisites—(Continued from May issue).

No. 534.

LEMON ICE CREAM.

Cream.....	3500 mls
Sugar.....	750 mls
Essential Tincture Lemon.....	16 mls
Gelatin.....	15 Gm.

No. 535.

ORANGE ICE CREAM.

Cream.....	3500 mls
Sugar.....	750 mls
Essential Tincture Orange.....	16 mls
Gelatin.....	15 Gm.

No. 536.

MARSHMALLOW ICE CREAM.

Cream.....	4000 mls
Marshmallows dissolved over hot water bath.....	1000 mls
Candied Cherries, cut fine.....	500 mls
Extract Vanillin.....	16 mls
Sugar.....	250 mls

No. 537.

BANANA ICE CREAM.

Cream.....	4000 mls
Sugar.....	1000 mls
Lemon Juice.....	60 mls
Gelatin.....	15 Gm.
Bananas.....	16

No. 538.

VANILLA ICE CREAM.

Cream.....	3750 mls
Sugar.....	750 mls
Extract Vanillin.....	90 mls
Gelatin.....	15 Gm.

No. 539.

STRAWBERRY ICE CREAM.

Cream.....	3500 mls
Sugar.....	750 mls
Strained Strawberry Juice.....	750 mls
Gelatin.....	15 Gm.

No. 540.

RASPBERRY ICE CREAM.

Cream.....	3000 mls
Sugar.....	750 mls
Gelatin.....	15 Gm.
Strained Raspberry Juice.....	750 mls

No. 541.

CARAMEL ICE CREAM.

Extract Vanillin.....	15 mls
Cream.....	3500 mls
Sugar.....	250 mls
Caramel Syrup.....	120 mls
Gelatin.....	15 Gm.

Contributed by

Clarissa M. Roehr, U. C. Hospital,
San Francisco.

No. 542.

GENERAL DISINFECTANT.

U. C. Hospital, San Francisco.

Cresol.....	50 mls
Soft Soap.....	45 Gm.
Alcohol, a sufficient quantity,	

To make..... 100 mls

No. 543.

BLACK INK.

U. C. Hospital, San Francisco.

Tannic Acid.....	3.34 Gm.
Gallic Acid.....	0.77 Gm.
Iron Sulphate.....	3.00 Gm.
Acacia.....	1.00 Gm.
Diluted Hydrochloric Acid.....	2.50 mls
Liquefied Phenol.....	0.10 mil
Distilled Water, a sufficient quantity,	

To make..... 100 mls

If an immediate black color is desired, then add a small amount of Nigrosine.

No. 544.

PASTA BOECK.

Boeck's Paste.

U. C. Hospital, San Francisco.

Solution Lead Subacetate.....	2 mls
Coal-Tar Solution N. F. IV.....	15 mls
Starch.....	20 Gm.
Purified Talc.....	20 Gm.
Glycerin.....	10 mls
Acacia.....	0.5 Gm.
Distilled Water, a sufficient quantity,	

To make..... 100 Gm.

Used in our Dermatological Department in skin diseases.

No. 545.

UNGUENTUM CERUSSAE COMPOSITUM.

Compound White Lead Ointment.

U. C. Hospital, San Francisco.

Red Oxide of Mercury.....	
Camphor, of each.....	6 Gm.
Lead Carbonate.....	12 Gm.
Petrolatum.....	
Hydrous Wool Fat, of each.....	38 Gm.

Used in our Dermatological Department.
Excellent in skin eruptions.

No. 546.

PASTA ZINCI LASSAR.

Pasta Zinci D.-A. B. V.

Lassar's Plain Zinc Paste.

U. C. Hospital, San Francisco.

Zinc Oxide.....	
Starch, of each.....	25 Gm.
Petrolatum.....	50 Gm.

There is some confusion regarding the formula of Lassar's Paste. Miss Roehr very correctly points out that this means the formula *without* Salicylic Acid, and states: "I have never seen this mentioned, but perhaps others use it that may also." Miss Roehr is right, as the original Lassar's Paste did not contain Salicylic Acid. The latter was added as an improvement. In some pharmacopoeias, f. i., Deutsche Arzneibuch, both are official, namely Pasta Zinci and Pasta Zinci Salicylata. At the same time the Chairman begs to point out that at his recommendation the White Petrolatum in the N. F. III formula was properly changed to Yellow Petrolatum in N. F. IV, as this is the ingredient in Lassar's original formula.

No. 547.

LOTIO CALAMINAE COMPOSITA.

Compound Calamine Lotion.

U. C. Hospital, San Francisco.

Calamine.....	6 Gm.
Zinc Oxide.....	6 Gm.
Glycerin.....	6 mls
Distilled Water, a sufficient quantity,	
To make.....	100 mls

No. 548.

LUBRICANT.

U. C. Hospital, San Francisco.

Starch.....	6 Gm.
Boric Acid.....	3 Gm.
Glycerin.....	25 mls
Distilled Water.....	25 mls

Triturate starch and boric acid with little water and add glycerin and the balance of the water. Boil during one or two minutes.

Contributed by Wm. Gray,
Presbyterian Hospital, Chicago.

No. 549.

CREAM BASE.

Boric Acid.....	15 Gm.
Zinc Oxide.....	
Bismuth Subnitrate.....	
Starch, of each.....	10 Gm.
Anhydrous Wool Fat.....	30 Gm.
Olive Oil.....	10 mls
Lime Water.....	30 mls
Rose Water.....	15 mls

Triturate the powders with the anhydrous wool fat until well incorporated. Then add the mixture of olive oil and lime water and last the rose water.

An excellent creamy base or vehicle for other medicaments.

No. 550.

UNGUENTUM HYDRARGYRI IODIDI RUBRI.

Ointment of Red Mercuric Iodide.

Ointment of Mercury Biniodide.

Red Mercuric Iodide.....	0.33 Gm.
Olive Oil.....	4 mls
Hydrous Wool Fat, a sufficient quantity,	

To make..... 30 Gm.

Very beneficial in the treatment of goitre.

Contributed by the Chairman.

No. 551.

UNGUENTUM ROSANILINI.

Fuchsine Ointment.

Skin and Cancer Hospital, N. Y.

Gruebler's Basic Fuchsine..... 1 to 2 Gm.
 Phenol..... 2 Gm.
 Petrolatum, a sufficient quantity,

To make..... 100 Gm.

This preparation is far superior to Scarlet Red Ointment for stimulating granulation in chronic ulcers.

It is very important to use the *basic* fuchsine, a bacteria stain, manufactured by Dr. G. Gruebler & Co., Leipzig and not the *acid* fuchsine or Magenta or Rosaniline Hydrochloride, which is very irritating. See also U. S. P. IX, p. 533.

No. 552.

PASTA HAMAMELIDIS.

Hamamelis Paste.

Witch Hazel Snow or Foam.

B. P. Cx.

Stearic Acid..... 10 Gm.
 Monohydrated Sodium Carbonate.. 0.75 Gm.
 Glycerin..... 1.5 Gm.
 Witch Hazel Water..... 50 Gm.
 Distilled Water, a sufficient quantity,

To make..... 100 Gm.

Melt the stearic acid on a water-bath, add the sodium carbonate dissolved in the glycerin and 5 mls of hot water. Continue the application of heat for an hour, with constant stirring; then remove from the source of heat, make up the weight to 50 Gm. with distilled water and then add 50 Gm. of hamamelis water. Heat the mixture for about a minute, stir until smooth, transfer to a warm mortar and beat to a foam. Keep in well closed containers, or the cream will become dry.

This preparation is an excellent toilet application for the skin.

No. 553.

SYRUPUS SENNAE ET MANNAE.

Syrup of Senna and Manna.

Syrup of Senna, U. S. P.

Syrup of Manna, N. F., equal volumes.

No. 554.

UNGUENTUM HYDRARGYRI CHLORIDI MITE.

Unguentum Calomelanos.

Calomel Ointment.

Pommade de Calomel.

Codex.

Calomel..... 10 Gm.
 White Petrolatum..... 90 Gm.

No. 555.

BROMO-CHLORALUM.

(Remington.)

Aluminum Chloride..... 30 Gm.
 Aluminum Bromide..... 15 Gm.
 Boiling Water..... 250 mls

Dissolve on a water-bath. When cool, filter through paper.

No. 556.

CREAM OF CAMPHOR.

Camphor-Cream.

(Remington.)

Castile Soap, dry and granulated... 8 Gm.
 Ammonium Carbonate..... 8 Gm.
 Powdered Camphor..... 8 Gm.
 Oil of Thyme..... 4 mls
 Oil of Turpentine..... 8 mls
 Tincture of Opium..... 8 mls
 Water, a sufficient quantity,

To make..... 500 mls

Dissolve the soap and ammonium carbonate in about 300 mls of hot water. Dissolve the camphor in the oils and add to the soap solution. Then add the tincture and sufficient water to make 500 mls.

A very soothing and healing lotion. The tincture of opium may be omitted.

No. 557.

WRIGHT'S SOLUTION.

Arsenic Trioxide..... 5.5 Gm.
 Potassium Carbonate..... 5.5 Gm.
 Bromine..... 15.5 Gm.
 Gold, in leaf..... 1.8 Gm.
 Distilled Water, a sufficient quantity,

To make..... 1000 mls

Boil the arsenic trioxide and potassium carbonate with 250 mls of distilled water in a flask until solution has been effected. Place gold leaf in a bottle, add 600 mls of distilled water and then carefully add the bromine and

shake until a solution is affected. Then add the first solution, mix well, and then transfer to a flask or retort and boil until bromine fumes are no longer evolved. When cool, transfer to a graduated vessel and add distilled water to make 1000 mils. Filter, if necessary.

No. 558.

ROTULAE MENTHAE PIPERITAE.

Peppermint Disks.

Pfefferminzplätzchen.

D. A.-B. IV.

Oil of Peppermint.....	1 mil
Alcohol.....	2 mls
Sugar Drops or Disks.....	200 Gm.

Dissolve oil in alcohol and rotate this solution in a capacious bottle. Add the sugar disks and gently rotate so that they absorb the oily solution.

These Peppermint Disks are much stronger and have more medicinal properties than the numerous "Peppermints" which flood the market.

No. 559.

ELIXIR ANTIASTHMATICUS, HARE.

Dr. Hare's Asthma Elixir.

Sodium Bromide.....	
Sodium Iodide, of each.....	1 Gm.
Fluidext. Pilulifera, N. F.	1.5 mls
Tincture Lobelia, U. S. P. VII.....	2 mls
Spirit Nitroglycerin.....	0.25 mil
Aromatic Elixir, a sufficient quantity,	—————
To make.....	30 mls

A favorite remedy of the late Prof. Hare, of Philadelphia, for asthma. Used largely in some sections of the United States. In place of 2 mls of the old 15 percent Tinct. Lobelia U. S. P. VII, 3 mls of the 10 percent tincture U. S. P. IX can be used.

No. 560.

PULVIS LOBELIAE COMPOSITUS.

Compound Lobelia Powder.

Asthma Powder.

B. P. Cx.

Powdered Lobelia.....	
Powdered Stramonium Leaves.....	
Powdered Tea Leaves.....	
Powdered Potassium Nitrate, of each	25 Gm.
Oil of Anise.....	0.1 mil
Mix well.	

No. 561.

ANTIASTHMATIC ELIXIR.

Improved.

The addition of Fluidextract Glycyrrhiza 0.6 mil to the above, greatly improves the taste of the elixir.

No. 562.

PULVIS ANTIASTHMATICUS.

Asthma Powder.

Himrod's Style.

Lobelia.....	
Stramonium Leaves.....	
Black Tea Leaves.....	
Potassium Nitrate, equal parts....	

The drugs, in coarse or fine powder, are thoroughly mixed.

Asthma Powders are used by burning about one-half to one teaspoonful and inhaling the fumes. Relief is thereby quickly obtained.

No. 563.

PULVIS LOBELIAE COMPOSITUS.

Sir Morell Mackenzie.

Powdered Lobelia.....	
Powdered Stramonium Leaves.....	
Powdered Tea Leaves.....	
Powdered Potassium Nitrate, of each.....	60 Gm.
Powdered Anise.....	
Powdered Fennel, of each.....	8 Gm.

The late Prof. M. Mackenzie, the eminent throat specialist, claims that the addition of the last 2 ingredients produces a superior Asthma Powder.

No. 564.

PULVIS STRAMONII COMPOSITUS.

Compound Stramonium Powder.

Sir James Sawyer's Asthma Powder.

B. P. Cx.

Stramonium Leaves.....	50 Gm.
Anise.....	12 Gm.
Lobelia.....	6 Gm.
Tea Leaves.....	6 Gm.
Oil of Eucalyptus.....	1 mil
Potassium Nitrate.....	26 Gm.

Mix the oil with the vegetable powders, then add the powdered saltpeter.

About half a teaspoonful of this powder is pressed by the fingers into the shape of a cone, which is then lighted at the top. The patient inhales the fumes as the powder burns. This powder is used several times daily, as may be necessary for asthma.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

BALTIMORE.

The Baltimore Branch of the American Pharmaceutical Association met on Wednesday, May 16th, in Harris Hall, of the University of Maryland. The reading of the minutes of the previous meeting was omitted.

Dr. Engelhardt submitted a report on the Proceedings of the A. Ph. A., which was received and ordered to be filed.

Letters from the Columbus, the New York, and the Washington Branches, in which were embodied resolutions in regard to the annual dues and the publications of the American Pharmaceutical Association, were read by the Secretary. After a general discussion, a motion was made and duly seconded that the Baltimore Branch of the American Pharmaceutical Association go on record as being opposed to any increase in dues; and that a committee of three be appointed, with power to act during the Summer when there would be no monthly meetings, to consider the publications of the Association, the member of the Council from the Baltimore Branch to be an *ex-officio* member of the committee. President McKinney appointed Dr. E. F. Kelly, W. J. Lowry, Jr., and B. Olive Cole as the other members of the committee.

A very interesting paper in regard to "Aconite and Aconite Preparations" by Dr. H. Engelhardt, was then presented. In this paper it is shown that the assay processes for fluidextract of aconite and powdered extract of aconite give results that are far from being satisfactory; that no concordant results can be obtained when cochineal is used as indicator when assays are made on the same sample by different operators; that the results obtained with methyl red as indicator are more concordant and satisfactory but that they are considerably lower than those obtained with cochineal; that therefore cochineal cannot indiscriminately be replaced with methyl red. This discrepancy seems to be due to the fact

that the alkaloidal residue obtained in the assay process consists of various bases which act differently on the two indicators, because no difference in the results was found when pure aconitine was titrated either in the presence of methyl red or cochineal as indicators.

For the assay of the powdered extract four different methods were applied, the U. S. P. IX method, the U. S. P. VIII method and U. S. P. IX method for the fluidextract adapted for powdered extract, and a direct shaking-out method. The results were not at all satisfactory. The same was the case with the assay of the fluidextract to which the U. S. P. VIII, U. S. P. IX methods and the direct shaking out method were applied. Some of the results obtained were absolutely worthless.

The results of a great number of physiological experiments were given and it is pointed out that when taking the lethal dose for crystallized aconitine as 0.0000005 per gramme guinea pig, the alkaloidal residues can contain only 25 per cent of the crystallized alkaloid when calculated from the requirements of the U. S. P.

The physiological experiments further show that powdered extract of aconite is almost worthless and that the fluidextract deteriorates very rapidly.

It is strongly urged in the paper that the assay process for both the powdered extract and fluidextract of aconite be revised and that some further work be done in regard to the present assay methods.

The entire paper, together with some supplementary experiments will be published at some future time in the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

A general discussion of the paper followed, after which a vote of thanks was tendered Dr. Engelhardt for his very worthy contribution and the meeting was adjourned.

B. OLIVE COLE, *Secretary-Treasurer.*

CINCINNATI.

At the May meeting of the Cincinnati Branch of the American Pharmaceutical Association, after disposing of the routine business of the Association, President Dr. J. C. Otis presented his annual address, in which he thanked the officers and members for the uniform courtesy and generous support given him during his incumbency in office and also bespeaking for his successor, Mr. Louis Werner, the same hearty support and encouragement. He advocates more energetic measures to be employed by the Membership Committee, but also realizes that, owing to the unsettled economic and political conditions, as well as the exacting nature of the drug business, the much desired increased membership is difficult to attain. He approves of the efforts of the officers and committees to present instructive lectures and discussions before this Branch, which cannot fail to be of material value to our members, and hopes that the coming session will be even more productive of instructive and practical topics than the one just passed. A copy of this address forms a part of this record.

Frank H. Freericks, chairman of the Committee on Legislation, in making his annual report, stated that a number of legislative changes and enactments were sought by pharmacists in Ohio during the last session of the Legislature, all of which were intended to place pharmacy on a higher plane and to secure for the pharmacist what really belongs to him. One good result secured was an amendment of the law, under which the enforcement of the so-called Pharmacy Laws was again placed with the Board of Pharmacy instead of the Board of Agriculture. A change was also secured in the matter of authorizing the Board of Pharmacy to subpoena witnesses, and in the method of finally suspending or revoking certificates, such final jurisdiction having been placed properly with the Court, instead of leaving the decision with the Governor and Attorney General, to whom such power could not be constitutionally given.

Under the auspices of the Ohio State Association, a strong effort was made for proper amendment of the Poison Law and restricting the handling of potent drugs and for restricting the sale of drugs generally to qualified people, and an amendment to the Narcotic Law was also sought. This proposed legislation largely failed because of the determined opposition of those having special interests, including

grocers, country merchants, proprietary medicine manufacturers and doctors. Without exception the legislation proposed was intended for the public welfare quite as much, if not more, than for the interests of pharmacists. The proposed amendment was an adaptation of the N. A. R. D. model, while some of the other proposed changes were to an extent based upon the intended A. Ph. A. Modern Pharmacy Law.

The opposition to everything which retail pharmacists desire and believe themselves entitled to, by special interests, which are concerned in one manner or another, makes it plain that either by conference with such special interests a satisfactory compromise must be secured, or, that otherwise pharmacists of this state and other states must increase their united activity to a point where they can secure what they and the public ought to have even as against the opposition of special interests.

In these very grave days it seems a word regarding the recognition of pharmacy by our national government would not be amiss. The present governmental machinery, because of the war, includes a Council of National Defense. That Council seems to be made up of men who are qualified along different lines to give advice of value to the proper authorities. It has evidently been the intent to include representatives of every activity which is vitally concerned with the needs of the Army and Navy, but it is noteworthy that no one seems to have thought of the need for having such Council include a representative who knows about pharmacy and about drugs, other than possibly as an incident to some distinct calling or profession.

In view of the above, the following resolutions were adopted by the Cincinnati Branch, copies of which were forwarded to the President of the United States, the two Senators from Ohio and the two Congressmen from the First and Second Districts. These resolutions were introduced by Hon. Frank H. Freericks and seconded by Dr. John Uri Lloyd.

"WHEREAS, The Government of the United States in the proper exercise of its functions, has found it necessary to create a National Council of Defense, constituted of the best qualified persons along the different lines of activity which concern and come in touch with the needs of the Army and the Navy, and,

"WHEREAS, The proper conservation, dis-

tribution, manufacture and supply of drugs and chemicals is in that connection of far-reaching importance, therefore be it

"Resolved, To be the opinion of the Cincinnati Branch of the A. Ph. A. that the National Council of Defense should properly include a representative of pharmacy, who is qualified to aid the government with advice and knowledge pertaining to the nation's drugs and chemicals; be it further

"Resolved, That a copy of these resolutions be sent to the President of the United States and to the two United States Senators from Ohio and to the Representatives in Congress from the First and Second Districts."

Treasurer Julius Greyer reported a cash balance in the treasury but deplored the fact that it had become necessary to drop from the list those names of members who have been in arrears with their dues, as well as those not eligible to membership in the local branch.

In view of the correspondence regarding the continuance or discontinuance of the Year Book from the Philadelphia, New York, Washington, D. C., Columbus and other branches, the Cincinnati Branch passed the following resolution:

"Resolved, That the Cincinnati Branch submits for consideration to the Council of the A. Ph. A. that in connection with meeting the expense of publishing the Year Book, they consider the feasibility of having voluntary contributions to defray such expenses, or otherwise publication on subscription."

The above resolution was introduced by Charles G. Merrell and seconded by F. H. Freericks.

The Secretary's annual report gives a complete résumé of the activities of this Branch during the session 1916-17. It forms part of this record.

At the installation of the newly elected officers, each one of these gentlemen pledged himself not alone to the progress and welfare of the local Branch but as well to the Parent Association.

CHARLES A. APMEYER, *Secretary.*

DETROIT.

Several questions of considerable importance to the druggists of the country were discussed at the May meeting of the Detroit Branch of the American Pharmaceutical Association. Among the subjects brought up were Compulsory Health Insurance. The Status of the

Pharmacist in the European War, and the A. Ph. A. Year Book.

The following resolution concerning Compulsory Health Insurance was introduced and unanimously adopted:

The Detroit Branch of the American Pharmaceutical Association desires to express its disapproval of the compulsory health insurance bills introduced in the Michigan and other legislatures during the last few months. It may be that, in the interests of the wage earners of very limited income, something in the way of social insurance should be provided under the supervision of the State, but the present plan as worked out by the promoters of compulsory health insurance certainly goes much too far and is open to serious objection.

It would involve a tax burden that would be enormous. It would deal out charity so lavish as to pauperize and enervate the very people whom it is designed to assist. There is a grave question, too, as to whether the compulsory feature is wise or not, since it would compel two-thirds of the entire male population of the country to go into the plan whether they wanted to or not; and the element of un-American discrimination is seen in the fact that the remaining third of the male population would not only be left unprotected, but would have to contribute very largely toward the protection of the others.

At the present time the subject is being carefully studied by experts in various sections of the country, and when some more equitable and judicious plan is offered to the American people, we shall be glad to give it our approval and our support. In the meantime, however, we are unalterably opposed to the proposition for reasons so numerous that they could not well be stated in a resolution of this kind.

A resolution was also adopted to the effect that the Branch goes on record as favoring the discontinuance of the A. Ph. A. Year Book. This step was taken because it was felt that the Year Book is not appreciated by the members in general and that the matter now used in the Year Book could be incorporated to better advantage in the monthly JOURNAL of the Association.

As part of the regular program of the evening interesting talks were given by Carl M. Green and Walter W. Kennedy. Mr. Green, who is the head of the Carl M. Green Advertising

Agency, took for his subject, "Nationally Advertised Goods as a Means for Increasing Sales." Mr. Kennedy, Detroit representative of the Lungmotor, explained the use of the lungmotor in the treatment of asphyxiation and gave a demonstration of the way in which the device is of service in cases of apparent drowning.

Officers for the season of 1917-18 were elected as follows: *President*, Ernest Kim-mich; *Vice-President*, F. T. Bradt; *Secretary*, Miss Mary Strawn; *Treasurer*, Charles F. Mann; *Chairman of the Program Committee*, E. R. Jones.

WALTER M. CHASE,
Chairman Program Committee.

NASHVILLE.

The regular monthly meeting of the Nashville Branch of the American Pharmaceutical Association was held in joint session with the Nashville Drug Club May 17, 1917, D. J. Kuhn, presiding.

The minutes of the preceding meeting were read and approved. D. S. Sanders, chairman of the Mail Order House Committee, reported progress and that arrangements had been made for this committee to meet with the Retail Merchants' Association in the near future. A number of letters were read from Tennessee Congressmen and Senators, endorsing the action taken by the Nashville Branch and pledging their support in the correction of the U. S. Patent Laws. Attention was called to the fact that several bills had already been introduced in Congress for temporarily correcting the existing laws. A letter on the subject was read from Dr. J. H. Beal. Dr. J. O. Burge emphasized the necessity of having the Patent Laws amended at the present time.

E. A. Gilliland, in speaking of prevalent drug prices, stated that the usual basis of calculation did not obtain now and the law of supply and demand does not control, as deliveries are uncertain and contracts cannot be made as formerly. It is largely a case of "take what you can get." He stated that the glass manufacturers were far behind in their contracts for bottles. Equally as bad or worse conditions exist with regard to tin cans; the Government having commandeered tin plate for the manufacturers of containers for canned foods. On account of the requirements of the Government, the demand for drugs and chemicals is very large, he said, but the potash and dye situation is somewhat improved by recent

developments. Mr. Gilliland predicted higher prices for drugs and chemicals than are required in munitions and for the Army and Navy. He referred to the impending war taxes that will affect alcohol, proprietaries, soda fountain beverages, tobacco, cigars, etc. He suggested that a thorough study be made of the situation and, as far as possible, the payment of these taxes be passed on to the consumers. Notwithstanding these conditions, the speaker predicted that business would continue good, as a result of the increased products of the mines and farms.

L. A. Jeancon, of Denver, Colo., being present, he was introduced to the members. He stated that recently a study of the cost of doing business had been promoted by the retail druggists of Denver in cooperation with the wholesalers. The druggists are constantly advised relative to price changes and an experienced drug man has been employed to visit the stores weekly to assist in communicating information along the lines of good business conduct and more particularly an understanding of the cost of doing business. A committee, consisting of J. B. Sand, E. J. Schott, C. W. Jennings, S. C. Davis, D. S. Sanders and D. J. Kuhn, was appointed to start a movement along similar lines in Nashville.

WILLIAM R. WHITE, *Secretary.*

NEW YORK.

The May meeting of the New York Branch of the American Pharmaceutical Association was called to order by President Mayer, in the lecture hall of the New York College of Pharmacy, on Monday, the 14th, 1917, at 8.30 P.M.

Forty-eight members were present.

The minutes of the April meeting were read and approved.

The Treasurer's report was read and accepted.

The report of the Member of Council (Professor Hostmann) was read and ordered accepted.

Membership Committee.—In the absence of Chairman Walter, the Secretary presented 24 applications for membership in the parent association.

The Secretary was directed to follow the usual course with regard to these applications.

Legislation and Education.—Due to the absence of the Chairman, no report was rendered.

Fraternal Relations.—Chairman Diner reported that due to the more pressing ques-

tions brought up by the present condition of war, little could be done.

Progress of Pharmacy.—Chairman Dickman read a number of interesting abstracts on the following:

Effect of Fertilizers on Oranges.

Determination of Antipyrine.

Chlorine in Perfumery.

Potassium from Kelp.

Waterglass Paints.

Analysis of Milk Powder.

Alkalinity of Pure Cocoa Ash.

Separation of Mineral Matter in Rubber.

Natural and Synthetic Camphor: A Comparison of their Physiological Action.

Test for Vanillin.

Communications from Mr. Woodruff and from the Philadelphia Branch were read and ordered filed.

The death of Mr. Main was reported by Professor Army, and the latter moved for the appointment of a committee to draw up suitable resolutions. The following committee was appointed for this purpose by President Mayer: Professor Army, Charles Holzhauer, C. O. Bigelow.

Dr. Diner then read an interesting paper on "Diagnostical Tests of the U. S. P. IX," pointing out a few improvements which might be made.

Mr. Penick then read a paper on "The Crude Drugs of the U. S. P. IX, from the Drug Merchant's Point of View." The paper dealt chiefly with the commercial aspects of the crude drug situation of the present time.

Dr. Satterthwaite led the discussion by reading a paper on "Pharmacopoeias, Pharmacists and Physicians." Further discussion of the papers was carried on by Dr. Weinstein and Professor Raubenheimer.

The meeting was then adjourned.

HUGO H. SCHAEFER,
Secretary.

At the meeting of New York Branch A. Ph. A., held May 28th, Caswell A. Mayo presented the resolutions which follow. These were adopted and present a very important matter for consideration by pharmacists everywhere; unless they themselves call attention, lives of the sick may be imperilled and pharmacies will be seriously inconvenienced.

EXEMPTION FOR PHARMACISTS FROM DRAFT.

"WHEREAS, The welfare of the community demands and the laws provide that none but qualified pharmacists shall be permitted to prepare and dispense medicines; and

"WHEREAS, Many qualified pharmacists will be amenable to draft into the Army by conscription; and

"WHEREAS, In many cases such draft may leave the pharmacy without legally qualified men to prepare and dispense medicines, thereby imperiling the lives of the sick; therefore be it

"Resolved, By the New York Branch of the American Pharmaceutical Association, that the President of the United States is hereby requested to make provision for the exemption from service under the draft of one qualified pharmacist and of one qualified assistant pharmacist for each pharmacy in the United States, and in addition, one qualified pharmacist and one qualified assistant pharmacist for each fifty prescriptions, or part thereof, compounded daily in said pharmacy above the first fifty; and be it further

"Resolved, That copies of these resolutions be sent to the President of the American Pharmaceutical Association, to the members of the Council, to the presidents of the several branches, and to the members of the National Drug Trade Conference, with a request that they too ask for exemption of a sufficient number of pharmacists to protect the public welfare by maintaining a competent staff of qualified pharmacists and assistants in every pharmacy in the United States."

PHILADELPHIA.

The regular monthly meeting of the Philadelphia Branch, A. Ph. A., was held Tuesday evening, May 8th, at the Philadelphia College of Pharmacy, with the President, Ambrose Hunsberger, in the chair. The evening was entirely dedicated to a consideration of the pharmacist's opportunities for aiding his country during the present period of stress. The regular order of the meeting was changed to accommodate the various speakers.

Major Frescoln, representing the Army Branch of the service, spoke enthusiastically of the opportunities which were offered to the pharmacist in that branch of the service, but despite the major's lucid and spiritfui explanation of these so-called opportunities, the general concensus of opinion among the audience was that very little recognition is given the profession of pharmacy. The fact that the U. S. Army provides no commission for pharmacists, no matter how advanced they may be, and offers them practically nothing different from what it offers any laymen, was made clear by the major, who emphasized the fact

that the pharmacist entered the service as a private and could be promoted according to his talents receiving for his highest rating, Master Hospital Steward, a rating that can also be given to any layman enlisting in the Hospital Corps. The fact must be borne in mind, however, that the major obtained his facts, solely from the status of the Army on a peace footing. The new aspect will probably change things. A cautious listener could not help catching the inference in the major's talk that in truth there was no need for a trained pharmacist except at the base hospitals, since the field medicaments were few and conveniently packed and could be handled by any intelligent layman. Still the major insisted that a thorough knowledge of the metric system was essential and one knows few even "intelligent" laymen, who know anything about the metric system. The unmistakable but unmeant impression left by Major Frescoln's talk was that the pharmacist can undoubtedly be of extreme usefulness in the Army, *but* that the profession is needful of bringing this thought to the minds of the proper authorities. Mr. England, discussing the speaker's presentation, ably summed up the question, when he said, that "the doctor is given his commission and so is the dentist and veterinarian, but the pharmacist is offered no more than the ordinary layman, simply because the profession has been asleep at the switch."

Chief Pharmacist's Mate Cooley, representing the Naval Service, brought a more cheerful message, despite the fact that he spoke in the course of his interesting talk of the pharmacist occupying the rôle of "embalmer" on board ship. There is a great need of pharmacists in the Navy, according to the speaker, and the opportunity for promotion is excellent. As a matter of fact the chief pharmacist is a commissioned officer, a junior lieutenant. Much opportunity is given the pharmacist in the Navy to specialize along certain lines, such as chemistry, bacteriology, etc., and full compensation given for such extra services.

Everyone starts on an equal footing, but recognition of talent is said to be certain and swift. Indeed it was quite evident that the Navy offers something to the pharmacist greatly in excess of what the Army offers and it seems strange that such should be the case. England and the United States are far behind other countries (France, Germany, etc.), in the recognition which is given to the pro-

fession of pharmacy in either branch of the service.

Dr. Boston, representing the American Red Cross Society, then spoke briefly of the aims and ideals of the Society, and of the opportunities which the retail druggist had of furthering the work of that excellent association, by distributing its literature, displaying its posters and taking names of new members, etc.

The meeting was then switched to its regular schedule. The routine business dispensed with, committee reports were read. Professor LaWall, chairman of the committee chosen to consider the report of the New York Branch, relative to the Year Book, etc., read a very comprehensive analysis of the New York Branch communication.

President Hunsberger then related the difficulties, mostly of the scarlet tape variety, which he had encountered in arranging the evening's program. He outlined the plans of the Committee of Defense, of which he is chairman, working in harmony with the State Public Safety Bureau, and stated that cards were being prepared whereby the retail druggists of the state would be informed of the various ways in which they might be of assistance to the Government. The following excerpts, taken from the letter sent by the Branch War Defense Committee to headquarters, are given as being of particular interest to the pharmacists of the country.

A brief outline of the work which we believe could be taken up by the pharmacists of the country and carried on with increased efficiency until the end of the war includes the:

Continuous display of posters.

Distribution of literature.

Interpreting to prospective recruits the various branches of national service.

Enrollment of recruits.

Dissemination of information, orders and proclamations.

Providing quarters for home defense units.

Fostering intensive production of foodstuffs in rural communities.

Receiving donations for forwarding to central distributing points.

Furnishing reports of disloyal conduct, suspicious actions, etc.

Control of the sale of potentially dangerous chemicals, such as chlorates, nitrates, etc.

The fact that drug stores are open in the evenings and are in many communities the neighborhood hub, should not be lost sight of in considering the availability as useful ad-

juncts to the larger organizations, which are laboring to systematize the national resources. Messrs. England, Rohrman, LaWall and Fischelis participated in a discussion of the committee's plans, coinciding thoroughly with their motives and methods.

Prof. LaWall then offered a motion, which was acted upon, calling for the appointment, by the President, of a committee of three to draft resolutions of respect and sympathy to be forwarded to the family of the late C. Lewis Diehl.

IVOR GRIFFITH, *Secretary*.

CITY OF WASHINGTON.

The committee appointed at the last meeting of the City of Washington Branch, A. Ph. A., to consider the resolutions of the New York and Philadelphia branches relative to the disposition of the Year Book and JOURNAL, has canvassed the situation and submits the following report:

Since the last meeting a communication has been received from the Secretary of the New York Branch with the resolutions adopted by that body. This report contains a very careful analysis of the entire question. It deserves the attention of all members of our branch and should be read and studied by every member of the Association. It is unnecessary to repeat the valuable information and suggestions contained therein.

This committee feels the dues of the Association should not be increased. The JOURNAL deficit will undoubtedly be wiped out in the near future through the careful business management of the new editor, the increase in advertising, and by cutting down the amount of printed matter which appears in its pages. The committee recommends the elimination of the detailed reports of the meetings of the Association, Council and other bodies of the Association which encumber the JOURNAL; and the substitution of short statements of the essential features, and furthermore that the activities of the local branches be reported in the form of brief synopses. These changes will save a vast amount of paper and printer's ink.

The Year Book is an institution which the committee feels has an established place in

American pharmacy and should not be abolished. The suggestion that "Chemical Abstracts" will assure all the purposes that the Year Book now serves is not well taken as many members of our Association are not members of the American Chemical Society. The committee recommends that the Year Book be brought up to date as rapidly as possible, that the abstracts be made shorter, that the essential features only be given as the reader, if interested, can refer to the original article, that the corps of abstractors be chosen for their special fitness in handling such work; that the references to the original articles follow the method used by "Chemical Abstracts;" that the page headings, lists of officers, past presidents, etc., be eliminated; that a list of subjects for research be included; that the illustrations be improved; and that the compilers make a careful study of the British Year Book 1916, from which many valuable suggestions can be obtained, the *Pharmacognostische Rundschau* and the *Jahresbericht der Pharmazie*.

The committee recommends further that the Association should inaugurate a systematic and aggressive campaign for increasing the membership.

The committee therefore submits the following resolutions:

1. "Resolved, That the Washington Branch of the American Pharmaceutical Association is not in favor of increasing the dues of the Association.
2. "Resolved, That this Branch does not favor the abolition of either the JOURNAL or the Year Book.
3. "Resolved, That this Branch advocates the inauguration of a systematic and aggressive campaign for increasing the membership of the Association.
4. "Resolved, That a copy of this report and its accompanying resolutions be sent to the President, Secretary and Treasurer of the Association, the Chairman of the Council, the Chairman of the Committee on Publication, and to the Secretary of each local branch.

Respectfully submitted,
H. C. FULLER,
A. VIEHOEVER,
S. L. HILTON."

COMMITTEE REPORTS

REPORT ON PATENT LAW REVISION.*

Many, and perhaps a great majority of people, including prominent members of the legal profession, have incorrect ideas of the nature of a patent privilege, and are also very much at sea in regard to the scope and limitations of the trade-mark. Starting from false premises, they reason wrongly about various questions that arise, and are never able to comprehend the nature of a patent grant, and of the reasons upon which the Copyright, Patent and Trade-mark laws are based.

The belief is very generally entertained that inventors have a "natural right" to their inventions, of the same kind given by the statutes, irrespective of the actual passage of the law. Some go even further than this and believe that when a person invests a large amount of money in advertising an alleged invention, a right of property has been created in the article so advertised, rather than in the brand of the article so marked.

"The right to the exclusive use of an invention is not a natural right—that is, pertaining to a man in a state of nature; but, when it exists at all, is a civil right, pertaining to man under the protection of a civil government."¹

"An inventor has no right to his invention at common law. He has no right of property in it originally. The right which he derives is a creature of the statute and of grant, and is subject to certain conditions incorporated in the statutes in the grants."²

The question of "natural right" to prevent others copying one's writings or discoveries is not a new one. If you will turn to the article on Copyright in the *Encyclopedia Britannica*, you will be interested to read about the Copyright War which was fought out in England many years ago. The question was raised whether an author has a "natural right" to the exclusive use of his writings, so that he may prevent others from copying them, or whether a copyright is only a thing of statute. Quoting from the *Encyclopedia*: "The nature of the right itself and the reasons why it should be recognized by law, have been from the beginning the subject of a bitter dispute. By some it has been described as a monopoly, by others as a kind of property. As a monopoly, it is argued that copyright should be looked upon as a doubtful exception to the general law regulating trade, and should at all events be strictly limited in point of duration. As property, on the other hand, it is claimed that it should be perpetual. Historically, and in legal definition, there would appear to be no doubt that copyright, as regulated by statute, is a monopoly." Quoting again from the *Encyclopedia*: "In 1834 was contested in the Supreme Court of the United States the same question which had been so elaborately argued in the English case of *Miller vs. Taylor*, and finally settled by the House of Lords five years later in *Donaldson*

* The evidence in support of the Preambles and Resolutions and suggested additions to the copyright, patent and trade-mark laws contained in the first part of our report was not published in the May Journal owing to want of space. I am now sending you the remaining part of the report, by request, as it is considered quite necessary for the members of the Association to have in their hands before the next annual meeting, the entire document for consideration and study. It is believed that this will decidedly facilitate matters and save much time at the annual meeting which otherwise might be used up in unnecessary discussion of the subject.

Your Committee wishes to again emphasize that fact that we have no desire to impose our personal views on the Association. The copyright and patent laws were designed to promote progress in science and the useful arts and the trade-mark laws to protect the public from fraud and imposition. It is generally conceded that the laws as now interpreted and applied fall short in accomplishing their purpose. It is therefore incumbent upon the A. Ph. A., representing the pharmacists of America, to suggest proper modifications of the law, of such kind as to secure the very important objects for which they were enacted.—F. E. STEWART, *Chairman*.

¹ Simonds Manual of Patent Law.

² I. Am. H. & L. S. & D. Mach. Co. vs. Amer. Tool and Mach. Co., 4 Fisher's Pat. Cases, 294.

vs. Becket, viz.: Whether copyright in published works exists by the common law, and is therefore of unlimited duration, or is created by and wholly governed by statute." The Encyclopedia informs us that the Supreme Court, following the authority of the House of Lords, held that there was no copyright except for the limited term given by the statute. That judgment has continued since to be the supreme law.

Those who hold that the right to prevent other persons copying one's writings or discoveries is a "natural right" will continue to oppose any restrictions or limitations in the exercise thereof as an infringement upon their vested rights. Those who believe that the investment of money in advertising creates property in the thing advertised, rather than in the brand of the thing advertised, will join forces with the "natural right" army to prevent, if possible, any legislation having as its object the promotion of science and the advancement of the arts, if in any way such progress and advancement seems to interfere with their selfish interests.

"The policy of the patent law is, primarily, a selfish one on the part of the public, and only secondarily intended for the benefit of inventors, and then as a means to an end only. The Constitution of the United States gives Congress the power 'to promote the progress of science and the useful arts, by securing for limited times, to authors and inventors, the exclusive right to their respective writings and discoveries,' thus showing, in this fundamental legislation, that the object sought is a benefit accruing to the public."³

In relation to the trade-mark, a misunderstanding has arisen on account of failure on the part of manufacturers of and dealers in merchandise to distinguish between a mark used as a commercial signature for the purpose of differentiating between brands of an article of commerce known to the public under a specific name common to the use of all manufacturers of the article, and a patent grant conferred upon the inventor of something new and useful in exchange for the publication of exact knowledge thereof for the benefit of science and the useful arts.

"The Supreme Court of the United States, in *President, etc., of the Del. and Hudson Canal Co. vs. Clark*, repeated a proposition that as a rule has been frequently enunciated and settled beyond question, *viz.:* The office of a trade-mark is to point out distinctively the origin or ownership of the article to which it is affixed, or in other words, to give notice who was the producer."⁴

Trade-marks are branded on cattle to indicate ownership. When the cattle are sold, the brand-mark no longer indicates ownership, but origin. Trade-marks branded on articles of commerce indicate origin of the products upon which they are marked. They do not indicate ownership in the products themselves. As stated on page 91 in the Report of the Commission appointed under Act of Congress, approved June 4, 1898, to revise the Statutes of the United States relating to Patents and Trade-marks,⁵ "The adoption of a trade-mark or a device to indicate the manufacture or origin of a certain article does not give any right to the exclusive production of the article so marked. Any article of manufacture, unless it be protected by a patent, may be made and sold by any person."

A trade-mark may be used as many times as there are classes of goods. The classification of goods in the Patent Office is arbitrary. The classification of materia medica products under the general term "medicines" is very misleading under the circumstances. Each medicinal article must have a name of its own by which it may be manufactured and dealt in. Therefore, each product constitutes a class by itself. As well might all foods be classified under the general term "food" and the names "salt" and "sugar" be registered as trade-marks on the class "food." But the word "salt" cannot be a trade-mark on salt, neither can the word "sugar" be a trade-mark on sugar. Each article of food must have a name of its own to distinguish it from other articles of food, and the same applies to medicines and chemical substances. Words in general use may be used as trade-marks. On page 107 in the Report of the Commission already referred to, appears the statement that "the representation of a star or the word 'star' has been registered in the United States Patent Office" as a trade-mark for nearly every recognized class of goods, having been registered nearly four hundred times. On page 108 occurs the following statement: "It will, of course, be understood that a star or an anchor or any other mark may be used by manufacturers of or dealers in different classes of goods without conflict. For in-

³ Day *vs. Union Rubber Co.*, 3 Blatch, 500; *Randall vs. Winsor*, 21 Howard, 327.

⁴ Patent Office Official Gazette, March 26, 1872.

⁵ This report was printed in 1900 and is known as Senate Document No. 20.

stance, the use of a star as a mark for tobacco does not conflict with the use of a star as a mark for matches or dress braid."

For reasons just stated, it has been decided by the courts that "No one can claim protection for the exclusive use of a trade-mark or trade-name which would practically give him a monopoly in the sale of any goods other than those produced or made by himself. If he could, the public would be injured rather than protected, for competition would be destroyed. Nor can a generic name or a name merely descriptive of an article of trade, or of its qualities, ingredients, or characteristics, be employed as a trade-mark, and the exclusive use of it be entitled to protection." (*Canal Co. vs. Clark*, 13 Wall, 323.)

As pointed out in this report, trade-marks differ from patents. By registering a name, the person who registers it does not receive a grant from the Patent Office, conferring upon him the exclusive right to the use of the name. Irrespective of registration, a manufacturer may adopt a word as his trade-mark and as long as he uses it as a commercial signature to distinguish his brand of the article from other brands of the same article, said article being open to competition under its specific designation, he will be protected in such use of the word. As already shown, it is not necessary that the word should be a coined word. Any word may be so used provided it is used as a trade-mark and not used as the name of the article itself.

The difference between copyrights and patents on the one hand and trade-marks on the other, is pointed out on page 100 of the report of the Commission in the following words:

"Criminal prosecution being had under the statutes of 1870 and 1876, in the southern district of New York and the southern district of Ohio, and a difference of opinion having been certified to the Supreme Court on the question whether these Acts of Congress on the subject of trade-marks were founded on any rightful authority in the Constitution of the United States, the cases came before the court for review at the October term of 1879. (Trade-mark Cases, 100 U. S., 82.) The court showed with admirable clearness that because of the distinction between patents and copyrights and trade-marks, pointed out in the decision, the power of Congress to enact the law could not be derived from that paragraph of Article I, Section 8, of the Constitution which related to authors and inventors, since the right of ownership in trade-marks is created by *adoption* and not by authorship or invention."

It is evident, therefore, that "the policy that the mere use of a name to designate an article would give to those employing it the exclusive right to designate such article by such name, would be giving a copyright of the most odious kind, without reference to the utility of the application or the length of the title, and one that would be perpetual. Neither the Trade-mark Law, nor the Copyright Law, nor the Patent Law, affords any such right, or, under the pretense of the same, allows any one to throttle trade under the alleged sanction of law." (Browne on Trade-marks.)

It has been decided by the courts in certain cases that names used as titles and claimed as trade-marks are either descriptive or deceptive. If descriptive, they are not trade-marks; and if deceptive, those claiming them as such are not in position to go into court with "clean hands" in the defense of their claims. This doctrine carried to its legitimate conclusion would annul a great many so-called trade-marks, because of the fraudulent claims made in advertising.

An effort is being made in this country and also in other parts of the world to establish what may be properly described as a "secret patent system" under the guise of trade-marks legislation. The method of protection adopted by this class of "protectionists" is to register a coined name in the Patent Office as a trade-mark, and then instead of using it as a trade-mark to point out the brand and distinguish it from other brands of the same article, they employ the name as the title of the article itself. The name as thus used becomes descriptive of the article. By extensive advertising, it is forced into the common language as a noun or the name of a thing. The control obtained over an article of commerce in this way is far more restrictive than that obtainable by a patent grant. No invention is required except that of a name. No publication of the alleged invention is made. The advertising machinery is set to work for the purpose of creating a demand, and the claims usually made for the article are false and misleading. This so-called "proprietary" system has done much to throw into disrepute the entire patent system. Instead of promoting progress in science and the useful arts, it has not only hindered the same, but protected secrecy and lasting monopoly, and enabled manufacturers of comparatively valueless products to rob the public by imposing high prices entirely unwarranted by the actual value

of the products advertised. In this way the "proprietary system" has in many instances defeated the object of the Patent Law and proved of decided disadvantage to public welfare.

Now, there can be no question that the proper application of the Patent Law is capable of greatly promoting the public welfare. "The theory of the law is, that the promotion of science and the useful arts is of great benefit to society at large, and that such promotion can be attained by securing to inventors and authors, for limited times, the exclusive right to their inventions and writings. That such theory is correct, is needless to say. It is almost self-evident, or at any rate readily susceptible of proof that the magnificent prosperity of the United States of America is directly traceable to wise patent laws and their kindly construction by the courts.

"The patent laws promote the progress of the useful arts, in at least two ways: first, by stimulating inventors to constant and persistent effort, in the hope of producing some financially valuable invention; and second, by protecting the investment of capital in the working and development of a new invention till the investment becomes remunerative."⁶

Taking the above facts into consideration, your Committee has formulated its conclusions in the following Preambles and Resolutions,* the object being as already stated to place the subject before the country in such form as to permit its free and impartial discussion, hoping thereby to harmonize the divergent views now existing on the subject; so that you may be in position to ask the coöperation of the professions, the manufacturers and the commercial interests involved, in securing a proper revision of our Copyright, Patent and Trade-mark Laws.

(Copy)

MERCHANTS' AND MANUFACTURERS' ASSOCIATION.

N. E. Cor. Thirteenth and Market Sts.,
PHILADELPHIA, PA., Dec. 18, 1914.

F. E. STEWART, M.D.,

DEAR DR. STEWART:

At a meeting of the Board of Directors of the Merchants' and Manufacturers' Association, held Thursday, Dec. 17th, the report of our Committee on Revision of U. S. Patent Laws was accepted, and the resolutions embraced in the report were adopted.

The Board of Directors authorized a vote of thanks to you for your untiring and indefatigable zeal along this line.

Trusting this will be satisfactory to you and will enable you to make rapid progress along the lines of your endeavor, I am, with kindest regards,

Yours very truly,

(Signed) C. W. SUMMERFIELD, *Secretary*.

"DR. F. E. STEWART,

PHILADELPHIA.

Philadelphia, November 17, 1914.

DEAR SIR:

As a member of your Committee on Patent Law Revision, I have received a copy of your treatise, preambles and resolutions sent by you to Mr. Summerfield. I have been over this very carefully, and am in thorough accord with it.

I desire to take this opportunity of congratulating you on the completeness and excellence of your report, and feel that the Association is to be congratulated on having secured your services in this matter.

Very truly yours,

(Signed) ERNEST T. TRIGG."

⁶ Simonds Manual of Patent Law.

* The Preambles and Resolutions Relating to the United States Copyright, Patent and Trade-mark Laws referred to, were published in the April number of the Journal of the A. Ph. A. The same was part of the report of the Committee on Patent Law Revision of the Merchants' and Manufacturers' Association of Philadelphia, of which Dr. Stewart was chairman. This report met the approbation of the Association, as reference to the copies of letters by the secretary, Mr. C. W. Summerfield, and Mr. Ernest T. Trigg, one of the members of the Committee and now President of the Philadelphia Chamber of Commerce, will show.

COUNCIL BUSINESS

A. PH. A. COUNCIL LETTER NO. 22.

PHILADELPHIA, PA., April 21, 1917.

To the Members of the Council:

Gentlemen:

The following letter has been received from Lucius E. Sayre:

"I have read with interest Dr. Edward Kremers' communication in A. Ph. A. Council Letter No. 20, page 41, in which he presents the unfortunate position Pharmacy finds itself in the organization of National Service—that the tendency is to ignore Pharmacy.

Permit me to say it is a step in the right direction to recognize a situation. This may lead to constructive work toward a remedy. Personally, I am grateful to Dr. Kremers for this letter to the Council.

What he says in regard to state boards is equally true of state associations. Before the passage of the Food and Drugs Law in the State of Kansas I warned the pharmacists in session that if they did not take almost immediate steps in the direction of 'Home Rule' this control would be transferred or captured by the medical fraternity. The warning was unheeded and the result is the opportunities for 'Home Rule' have been taken away.

As intimated above, it is a sign of progress to recognize a situation. Then it should be faced squarely. This should be done at once by the A. Ph. A.

Dr. Kremers refers to what may be termed inordinate commercialism in Pharmacy. I have little sympathy with it, but commercialism in a less apparent form is rife in the profession which I feel deliberately aims to make Pharmacy inconspicuous—'Conspicuous by its absence' on important committee work.

The physician as well as the pharmacist is a commercial man. The pharmacist's office is large, more conspicuous and obvious, but in respect to commercialism the two professions I feel fairly agree.

Up to date the medical profession has not troubled itself about the Mission of Pharmacy. It has contended itself with reaping the benefits of its laboratories and the researches of individual pharmacists who put their life work in the field. American medicine owes a direct debt to American Pharmacy which it should recognize and repay. If American

physicians will not see this fact it behooves the organized efforts of pharmacists to force a proper recognition. The thing the medical profession should begin to recognize is that American Pharmacy must become militant in a forceful and decided way. This should be taken up seriously at the next meeting of the A. Ph. A. and I hope Dr. Kremers will not cease to exert his efforts which I, for one, appreciate very much indeed."

The following communication has been received from President Wulling:

"Council letter No. 20 did not come to my attention until just now.

Prof. Kremers' letter of March 27th is very much in line with those of which I am sending you copies. I feel that the Council ought to take notice of the fact that no pharmacist occurs on any of the committees of the National Research Council appointed by the National Academy of Sciences and should exert itself to the degree of at least a courteous, but stiff protest against this omission. It is the same old story. Pharmacy lacks aggressiveness and this lack is becoming more and more evident in the neglect of pharmacy by other professions and sciences. While Dr. Kremers does not suggest that the A. Ph. A. appeal for merited recognition, I do not hesitate to advise that the A. Ph. A. assert itself in the name of American pharmacy to the end that the National Academy of Sciences be invited to realize that professional pharmacy is based most largely upon science and that pharmacy has contributed much to the development and elevation of science. The encroachments of commercial pharmacy are of course responsible in a large measure for the lack of recognition given to pharmacy. While reforms within our calling are absolutely essential and of immediate necessity for the welfare of the calling, I yet would not wait until these reforms have been accomplished before taking active steps looking to deserved recognition of professional and scientific pharmacy. The Council has business before it for quick and effective action.

I indorse what Mr. Hilton says in his letter of March 29th. Prompt and effective action should be taken to enable American pharmacy to take advantage of the opportunity now presenting itself of establishing a pharmaceu-

tical museum at Washington. I urge appropriate action.

In making so many suggestions to the Council, I hope the Council will not regard me as exceeding the limits of the functions of my office. However it may be, I am earnestly hoping to see more initiative and aggressiveness on part of the Council in the very near future.

In this connection it occurs to me to suggest the consideration of the advisability of a Council committee on initiative and welfare, whose especial business it would be to keep its fingers on the pharmaceutic pulse, to watch the pharmaceutic trends and affairs very closely, to anticipate many things that we now do not become conscious of until they hit us, the activity of this committee to become the basis for positive, prompt and constructive work by the Association. Such a committee might be the means of great advantage to the Association. I have not thought the matter out but give it for what it is worth. I have the idea on my list of items that I will consider when preparing my presidential address, but if the suggestion is good for anything in the opinion of the Council, it might be well to adopt it at once."

J. W. ENGLAND, *Secretary*.

415 N. 33RD STREET.

A. PH. A. COUNCIL LETTER NO. 23.

PHILADELPHIA, PA., April 27, 1917.

To the Members of the Council:

Motion No. 27 (Election of Walter H. Cousins as Member of Commission of Proprietary Medicines) had received a majority of affirmative votes.

Motion No. 28 (Appropriation of \$15 to Committee on Patents and Trade-Marks). Moved by Dr. F. E. Stewart, seconded by George M. Beringer, that fifteen dollars be appropriated to the Committee on Patents and Trade-Marks for expenses of committee. The appropriation is approved by the Committee on Finance.

Motion No. 29 (Election of Members). The following applications have been presented:

- No. 124. J. Merner Noble, 500 N. Commercial St., St. Louis, Mo., rec. by Virgil Coblentz and Charles H. LaWall.
- No. 125. C. H. D. Smith, 359 N. Market St., San Jose, Cal., rec. by M. A. Pellerano and Anthony C. Coit.

- No. 126. Charles Ryan Eckbert, 26 E. Washington Ave., DuBois, Pa., rec. by Cecil R. Bloom and P. Henry Utech.
- No. 127. Jacob Feldman, 321 Pleasant Ave., New York, N. Y., rec. by Herman Walters and Jeannot Hostmann.
- No. 128. Charles Thomas Dill, 167 W. 143rd St., New York, N. Y., rec. by Herman Walters and Jeannot Hostmann.
- No. 129. H. H. Sherwood, 39th St. and 2nd Ave., Brooklyn, N. Y., rec. by Hugo H. Schaefer and William Mansfield.
- No. 130. Robert George Kissick, 199 Lincoln Place, Brooklyn, N. Y., rec. by H. V. Arny and Hugo H. Schaefer.
- No. 131. Fanchon Hart, 115 W. 68th St., New York, N. Y., rec. by Hugo H. Schaefer and C. W. Ballard.
- No. 132. Julius Ginsberg, 333 E. 16th St., New York, N. Y., rec. by H. V. Arny and Hugo H. Schaefer.
- No. 133. Theodore Richard L. Loud, 270 Fort Washington Ave., New York, N. Y., rec. by Hugo H. Schaefer and Ralph Jennings.
- No. 134. Jack Nicholas Casavis, 115 W. 68th St., New York, N. Y., rec. by Jeannot Hostmann and Hugo H. Schaefer.
- No. 135. Alexander J. Link, U. S. Naval Hospital, Great Lakes, Ill., rec. by Wm. B. Day and J. F. Rupert.
- No. 136. Bagdasar B. Goolkasian, 42 Kneeland St., Boston, Mass., rec. by Theodore J. Bradley and Hugh C. Muldoon.
- No. 137. Erwin H. Baker, 121 West Santa Clara St., San Jose, Cal., rec. by N. A. Pellerano and Anthony C. Coit.
- No. 138. B. Furnish, 1038 Franklin St., Santa Clara, Cal., rec. by N. A. Pellerano and Anthony C. Coit.
- No. 139. William S. Garvin, 47 Summit Ave., Webster Groves, Mo., rec. by Charles H. LaWall and M. R. LaWall.
- No. 140. George W. Coulter, Franklin St., Clarksville, Tenn., rec. by J. E. Justice and Wm. B. Day.
- No. 141. Everly Nelson Berry, 116 Main St., Twin Falls, Idaho, rec. by Roy Miles Spargur and H. M. Whelpley.

- No. 142. Robert B. Etter, 1923 Adams St., Indianapolis, Ind., rec. by A. D. Thorburn and I. L. Miller.
- No. 143. Louis Doerr, 94 S. 1st St., San Jose, Cal., rec. by N. A. Pellerano and A. C. Coit.
- No. 144. Hugh MacDonald Nicholson, 54 Woodruff Ave., Brooklyn N. Y., rec. by Wm. B. Day and J. F. Rupert.
- No. 145. Charles Elbert Hoffman, 1901 Arch St., Phila., Pa., rec. by Charles S. Herron and Charles H. LaWall.
- No. 146. Albert J. Feuerbacher, 427 Pulaski St., Lincoln, Ill., rec. by Wm. Gray and Wm. B. Day.
- No. 147. Frank Worthy Griffis, P. O. Box 1521, Dallas, Texas, rec. by L. B. Mitchell and Jacob Schrodt.
- No. 148. Milton Eugene Rohrbaugh, 55 Hanson Place, Brooklyn, N. Y., rec. by Charles H. LaWall and M. R. LaWall.

J. W. ENGLAND,
Secretary of the Council.

415 N. 33RD STREET.

RESOLUTIONS IN MEMORY OF C. LEWIS DIEHL BY NATIONAL FORMULARY COMMITTEE.

WHEREAS, In the decease of Professor Conrad Lewis Diehl, who closed his honorable career, devoted largely to the advancement of pharmacy, on Sunday, March 25, 1917, ethical pharmacy has lost one of its chief exponents, the American Pharmaceutical Association one of its foremost members, and the Committee on National Formulary its esteemed chairman, and

WHEREAS, By his unselfish consecration of service, his industrious application and his voluminous contributions to the literature, he has greatly enriched his chosen profession and built for himself, within the annals of pharmacy, a time-enduring monument of fame, and

WHEREAS, By his long and faithful service on the Committee on National Formulary the members were brought into close personal relation and had many opportunities of observing his extensive knowledge and wide experience, his earnestness and sincerity, his ability and fairness as a presiding officer, characteristics that won for him the esteem and love of every member; therefore be it

Resolved, That the Committee on National Formulary hereby record their high appreciation of the value of the constructive work of C. Lewis Diehl in behalf of the National Formulary, with the evolution of which work he was so closely identified, and we are grateful that he was spared to see the completion and publication of the last revision prepared under his guidance as chairman; and be it further

Resolved, That we hereby attest our sense of the great loss that this Committee has sustained in the completion by Divine command of the duties of our associate, and likewise that the members individually sincerely lament the loss of one who endeared himself to each and every member, and be it

Resolved, That we extend to the family of our departed friend and co-laborer our deep sympathy and condolence in this great sorrow that has come to them.

Resolved, That these resolutions be entered upon the records of this Committee and that a copy thereof be sent to the family of our late Chairman.

GEORGE M. BERINGER,
OTTO RAUBENHEIMER,
C. M. SNOW,

Committee.

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Office of Publication, 253 Bourse Building, Philadelphia, Pa.

A CORRECTION.

In the article by John K. Thum, May issue, p. 461, line 11, in the figure denoting the quantity of phenolphthalein, the decimal point should be before the zero; amount should be stated 0.02 phenolphthalein. While the error is apparent, correction should be made.

THE PHARMACEUTICAL CORPS.

Replies to letters from pharmacists urging the establishment of a pharmaceutical corps in the U. S. Army, have carried the statement that there is no need for those who require that they be given rank in order to serve.

This is true but as long as professional service has been granted such recognition, there is no apparent reason why pharmacists should be made exceptions to the rule. They contribute service that requires preparation; they have given the results of investigations and labor for the benefit of others and not controlled their discoveries, at least not to the extent of other inventors or discoverers. The world has profited by the discoveries of Scheele, Caventou, Pelletier, Labarraque and the hosts of others. The Dutch Burgomaster presented thirty odd reasons for not firing a salute, among them, having no guns and powder. What would medicine do without pharmacy? The *Army and Navy Journal* in a recent issue, answering Dr. Geo. F. Payne's argument for a pharmaceutical corps, concludes by saying: "Men who have not sufficient pride to do their whole duty, with or without rank, are out of place in the Army. Whatever may be the force of the argument for organizing a corps of pharmacists, the plan of giving them military rank is of very doubtful expediency." Such comment is calculated to incite a militant spirit. There seems to be prevalent a conviction that pharmacists are not to have a voice in their own behalf. In Canada they are having troubles of a similar kind, as the following editorial of the *Canadian Pharmaceutical Journal* evidences:

"THE POSITION OF THE PHARMACIST IN THE ARMY.

"It is far from satisfactory, in fact, just at present it is aggravating and the wonder is that the treatment accorded the craft has not dampened the patriotic enthusiasm of one of the finest bodies of men who have contributed proportionally more largely than any other class of citizens to Empire safety.

"Unfortunately the position of pharmacists in the forces is partially due to the apathy of the craft on the matter. Apart from the efforts of the officials of the Canadian Pharmaceutical Association, few members have interested themselves in bringing about the merited reform. Another contributing cause is the chaotic condition of military affairs in the Dominion, which has prevailed for well over a year and a half.

"Had the members and assistants throughout the Dominion supplemented the efforts of the officers during past years, the desired change would have been made before the war called for the supreme effort of our military authorities. If even now those who recognize the unenviable position of the pharmacist would direct their efforts toward the attainment of their object, beneficial results would follow. No progress can be made or results achieved by writing letters to "trade papers" or criticism of officers because of failure in face of almost insurmountable obstacles. Trade journals can exert no influence, and usually are ignorant of conditions. The officers require encouragement and support rather than criticism. Those with the time and inclination to write letters should address them direct to the Minister of Militia and Defense, Ottawa.

"We would especially urge our members to avoid following the advice of those not familiar with conditions or lacking sound judgment. A plain statement of case, and insistent demand for simple justice will accomplish more than hysteria and bluster. Remember the men in authority are carrying heavy burdens these days. As a steadying influence we may

say that the officers of the Canadian Pharmaceutical Association have not abandoned their purpose. They are still on the job.

"We must also do justice to the Canadian Military authorities by stating that the failure to carry out the agreement made by Maj.-General Hughes was due to representation made to the Minister by the *Imperial authorities*. Considerations for the wishes of the *Imperial War Office* led to the cancellation of the order conferring the commission of Lieutenant on dispensers in overseas forces. We are *debarred* from stating the reasons behind the request of the Imperial authorities, but they were considered weighty enough by General Hughes to justify the cancellation.

"While on the subject, it will perhaps be well to correct an erroneous impression prevalent regarding the number of dispensers required. There are no dispensers in the forward dressing stations or with the forward ambulance corps, neither are there dispensers with regimental units. Immediately corps arrive overseas they are brigaded in training camps and here dispensers are employed, and also in base hospitals and convalescent hospitals, so that the number required is limited. For military reasons it is impossible to create a *staff of officers*, so that only the man in charge of the dispensary has received commission rank, previous to the cancellation of the order as explained."

HOSPITAL APPRENTICES NEEDED.

The Navy Department authorizes the following:

"Two thousand hospital apprentice recruits will be needed within the next two months for the Hospital Corps, and efforts will be made to secure them as rapidly as possible. The 2,000 enlisted in the past two months are being trained at the stations at Newport, R. I.; the Great Lakes Training Station, Chicago; and at San Francisco. As rapidly as these hospital apprentices can be trained they are put into active service, making room for more recruits.

"Emergency and temporary hospital facilities are being provided at various naval training stations and wooden pavilions are being erected at Newport; Portsmouth, N. H.; Philadelphia; Norfolk; Port Royal, S. C.; Charleston; Pensacola, Fla.; New Orleans; Great Lakes, Ill.; Puget Sound, opposite Seattle; and Mare Island, Cal. This expansion, necessary to provide for the needs of the thousands of recruits in training, is being pushed rapidly to completion.

"The enormous increase in the number of enlisted men consequent upon the war makes a heavy demand upon the Naval Medical Corps, outside the professional work connected with the natural increase in the sick rate. But the individual members of the corps are performing their assigned tasks not only with energy but with enthusiasm, and every possible preparation is being made to meet any emergency which may arise and which can be foreseen."

LIBERTY BONDS.

It is perhaps unnecessary to speak of the Liberty Bonds in the Journal of the A. Ph. A.; however as a matter of record the members doubtless desire that such mention be made. Pharmacists, as citizens have answered the call of duty; every American who subscribes to the justice of the course of the United States in entering and conducting the war we are now engaged in should subscribe to the Liberty Loan Bond issue to the extent of his or her financial ability.

TIMELY RESOLUTIONS.

Caswell A. Mayo presented resolutions at the last meeting of the New York Branch A. Ph. A., which will receive the attention of every pharmacist because of their importance at this time. (See under Local Branches, this issue.) Unless provision is made by selective draft there is apt to be a deficiency of qualified prescriptionists. Pharmacists and the public are interested in a proper conservation.

OBITUARY.

FREDERICK T. GORDON.

Frederick T. Gordon was born in Atlanta, Ga., July 1, 1870, and died at his home in Philadelphia, Pa., April 29, 1917.

The deceased was a typical Southerner; he was kind, sincere and devoted, possessed of

high ideals and principles. He was educated at Johns Hopkins University, where he received the degree of B.S.

Mr. Gordon entered the U. S. Navy in the old rate of Apothecary, August 8, 1890, and served four enlistments; July 25, 1900,

he was appointed to the warrant rank of pharmacist. During his period in the Navy he served at various times on board the fol-



FREDERICK T. GORDON

lowing vessels: Wabash, Independence, Marion, Franklin, Castine and Richmond. The later years of his service were at the Bureau of Medicine and Surgery and in the Surgeon General's office, where his general knowledge of scientific matters and literary ability made him most useful. He was retired for disability contracted in line of duty. Since that time, November 30, 1906, he made his home in Philadelphia, and during the last four years he was Instructor in Physics in the Preparatory Department of the Hahnemann Medical College and Hospital of Philadelphia. Besides doing excellent scientific work he was a valuable advisor to his students and took a personal interest in all of them; this interest was probably enhanced because he had no children. For several years he was staff contributor of the *American Druggist*; he showed great versatility, had a wide knowledge of pharmacy and allied topics and an excellent command of English.

The deceased joined the American Pharmaceutical Association in 1911 was secretary of the Historical Section for two years and contributed a number of interesting papers to the proceedings.

As testimony of his faithful service to the Government a troupe of sailors from League Island Navy Yard was detailed to act as pall-bearers and body-guard. A salute was fired over his grave and the impressive "taps" marked the end of the service. His widow survives him.

JOSEPH WEINSTEIN.

If we suppress the sorrow and regret which follows the departure from this life of a loyal, active member of the American Pharmaceutical Association, and the sympathy we have for the bereaved, we can contemplate that the last moments of Dr. Joseph Weinstein and the surroundings which attended his passing away might have been at least among the scenes his mind had depicted for the termination of his lease on life. He died in service. While among his associates, attending the meeting of the New York Branch A. Ph. A., May 14, the summons came quickly, and this voice that had a few minutes before participated in the discussions of the evening was stilled forever.

The deceased was in the 58th year of his life; born at Courland, Russia, he received his earlier pharmaceutical education and training at the Imperial University of Khar-koff and the Imperial University of Moscow. Coming to the United States in 1891, he opened a pharmacy at 75 E. Broadway.



JOSEPH WEINSTEIN

New York City, which he operated until the building of the Manhattan Bridge necessitated his moving away from this location. Also

laboratory work had engaged his attention to such an extent that he deemed it best to give all of his time to this work. The deceased attended the New York College of Pharmacy and in 1906 he received from this institution the degree of Doctor of Pharmacy.

Doctor Weinstein was at one time secretary of the Eastern branch of the New York Board of Pharmacy. He was active in the

New York State Pharmaceutical Association. His interest in the American Pharmaceutical Association was largely centered in the Section of Practical Pharmacy and Dispensing, of which he was chairman last year. At the time of his death he was acting treasurer of the New York Branch A. Ph. A. Mrs. Weinstein and two children survive the deceased.

SOCIETIES AND COLLEGES.

THE COMMITTEE ON NATIONAL DEFENSE OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

The Committee on National Defense of the American Pharmaceutical Association, appointed by President F. J. Wulling, met at the Hotel Raleigh, Washington, May 2. The meeting was called to order by Chairman S. L. Hilton, who stated that the purpose of the meeting was to discuss ways and means whereby pharmacists would secure recognition by the Government in the present crisis. There were present, Chairman S. L. Hilton, Dr. J. H. Beal, Dr. F. E. Stewart, and Lewis C. Hopp; and others who had been in attendance at the National Drug Trade Conference were invited to participate in the discussion. It was deemed advisable that there be unanimity of action in this matter and that all branches of the drug trade unite in securing recognition, and as the National Drug Trade Conference had appointed a committee consisting of E. C. Brokmeyer, S. L. Hilton and Dr. A. R. L. Dohme, it was considered advisable that they formulate plans for action. After informal discussion of the subject, a meeting was called by the chairman of the Drug Trade Conference Committee. It was stated that the Council of National Defense is specifically constituted by law and that it would be impossible to obtain any representation on that body but additions could be made to the Advisory Committee.

It was moved by Dr. J. H. Beal and duly seconded and unanimously adopted, "that it is the consensus of opinion of this body that the Pharmaceutical and Chemical Industries of this country should have representation on the Advisory Commission to the Council of National Defense."

It was further moved, seconded and carried unanimously, "that the National Drug Trade

Conference Committee be requested to join with them such additional representatives of the pharmaceutical and chemical industries as in their opinion will best facilitate their duties and that they also be requested to present their case to any official or body that in their opinion might render valuable assistance."

Chairman Hilton writes that the essential thing to do is to stand together in securing a place on the Advisory Commission for a pharmacist and then, if this is secured, to take up the matter of establishing a Pharmaceutical Corps in the Army. With a representative on the Commission the urgent need for a Pharmaceutical Corps can be impressed on Congress, and if they are persuaded the law can be amended for such provision.

Mr. Hilton states that the work of the Committee is proceeding as rapidly as possible under the trying conditions and asks for a united front in aid of the efforts of the Committee, without which or a division of interest success is more difficult, if not improbable. He also states that he hopes very soon to report further progress, but emphasizes the need of the united support from all branches of the drug trade.

It seems that, just as soon as a report can be made, a line of action should be definitely indicated. There is in this issue an editorial on the urgent need for a Pharmaceutical Corps in the U. S. Army, and this is in explanation of one of the purposes this Committee has in view. The Committee is on the ground and they will doubtless soon know whether it will be possible to secure the appointment of a pharmacist on the Advisory Commission. Their loyal, enthusiastic support is unquestionably essential to success and this should be freely given, and to that end pharmacists should be advised as promptly as possible, as to what their line of action should be.

NATIONAL DRUG TRADE CONFERENCE.

A meeting of the National Drug Trade Conference was held May 1 and 2. The two most important topics under consideration were representation of the drug trade and pharmacy in the war administration and consideration of anti-narcotic legislation. Dr. J. H. Beal was elected national councillor to represent the Conference in the Chamber of Conference of the United States.

The following resolutions on the narcotic situation were presented:

First. That the results of public and private investigation very clearly indicate that there has been a very large decrease in the distribution of habit-forming narcotic drugs since the adoption of the present Federal narcotic law, commonly known as "The Harrison Act," and that the principal proportion of such drugs now supplied to addicts and to the under-world comes through unregistered dealers operating in defiance of the law, and that the supplies of such dealers are very largely obtained by theft and burglary and through the operation of smugglers.

Second. That investigation clearly proves that large quantities of habit-forming narcotic drugs are smuggled into the United States, and form one of the principal sources of supply of drug addicts and of the under-world; materially increased precautions against smuggling will have to be taken before supply of such drugs to illegitimate distributors can be successfully controlled.

Third. Since investigation indicates that a considerable proportion of the supply of habit-forming narcotic drugs in the hands of the illegitimate distributors has been obtained through theft and burglary while in storage or in transit, and since the number of such thefts and burglaries is constantly increasing, the National Drug Trade Conference earnestly advises and urges all members of the medical profession and of the drug trade to a fixed policy of preserving their stock of such drugs in securely locked compartments, vaults or burglar-proof safes, and under such precautions as will effectually prevent access thereto of any but trustworthy and properly authorized employees.

Fourth. That the market for habit-forming narcotic drugs handled by unregistered dealers in defiance of law and obtained by theft, burglary and smuggling or other illegal

sources of supply, is very largely created and sustained by the difficulty of addicts in obtaining such drugs through the normal channels of trade, and who, in their desperation, are ready to pay enormous prices for such drugs.

PROVISION OF ADDICT TREATMENT.

Fifth. That in the opinion of experts, who have carefully investigated the subject, no amount of legislation, either State or Federal, will effectually suppress the traffic in habit-forming narcotic drugs by unregistered and surreptitious dealers, until proper and sufficient provision has been made for the care and treatment of existing drugs addicts, whose purchases sustain the secret markets for such drugs.

Sixth. That the investigation shows it to be essential to the suppression of the evils due to the misuse of habit-forming narcotic drugs that provision should be made for the treatment of existing drug addicts in municipal, State, or Federal sanitariums or in private sanitariums under strict public supervision and control.

Seventh. That investigation has developed the fact that numerous so-called "institutions" for the treatment of drug addicts under private control, are in fact conducted for the profit to be obtained through the supply of the drug to the addicts or for the exploitation of the addict, and that the method of treatment used therein calculated to perpetuate, rather than to cure, drug addiction.

Eighth. That in consequence of these foregoing established facts all privately conducted sanitariums for the treatment of drug addiction should be subject to strict supervision and control by the public authorities entrusted with the enforcement of the anti-narcotic laws.

Ninth. That in order to make State anti-narcotic laws capable of effective enforcement, every such law should contain provision making it an offense to have possession of habit-forming narcotic drugs, unless satisfactorily explained, and also making simple proof of possession of such drugs *prima facie* evidence of violation of the law.

Tenth. That the furnishing of addicts, not under restraint and responsible control, with habit-forming narcotic drugs, to be self-administered by such addicts as a part of the treatment for the cure of drug addiction, is contrary to public policy and should be prohibited in all cases where sufficient provision has been made for the treatment of such addicts in properly conducted public sani-

tariums, or in publicly conducted and supervised private sanitariums. This section was referred to the conference without recommendation, because some present felt that physicians should continue to have the opportunity of treating addicts privately, without restraint.

Eleventh. That there is great need for the further study of the problem of drug addiction and of the treatment of drug addicts, and that the publications especially addressed to the members of the drug trade and to the medical profession are requested to use their best efforts for the collection and dissemination of authoritative and reliable information concerning action of the so-called habit-forming narcotic drugs and the action and reaction of such drugs on addiction patients.

Twelfth. That State anti-narcotic laws should contain provisions for the revocation of the license of physicians, pharmacists, or other licensed persons, convicted of the wilful violation of the anti-narcotic laws.

Thirteenth. That the possession of hypodermic syringes or needles by drug addicts should be an offense under the law, and proof of the possession of such instruments by such addicts should render them subject to arrest and restraint.

Fourteenth. That the National Drug Trade Conference is requested to publish the papers and revised discussions of the joint convention in such form as will permit their distribution to the drug trade publications and to the members of the convention.

TRUSTEES OF U. S. PHARMACOPOEIA MEET.

The Board of Trustees of the U. S. Pharmacopoeia met in Washington, May 5, in annual session. The Board decided to invest \$20,000 of its funds in Liberty Bonds. Dr. J. H. Beal, of Urbana, Ill., was re-elected chairman and Dr. H. M. Whelpley, of St. Louis, secretary. Samuel L. Hilton, of Washington, had been elected treasurer for ten years, two years before, so that this office did not have to be voted on at the recent meeting.

Besides the above mentioned there were present Dr. Harvey W. Wiley, Prof. Jos. P. Remington, Dr. William J. Schieffelin and F. W. Meissner.

YOUR ASSOCIATION NEEDS YOU.

Theodore Roosevelt says: "Every man owes some of his time to the upbuilding of his profession."

The convention of the American Pharmaceutical Association, which will be held at Indianapolis August 27th to September 1st, offers a splendid opportunity to every thinking pharmacist to do his "bit" for the betterment of his profession. The A. Ph. A. Convention this year will be one of the most important meetings in the history of the association. Our government is asking the co-operation and support of all of its citizens—in all walks of life. Individual effort is valuable but only as it coordinates with the work of the man.

As Kipling so aptly expresses it:

"It ain't the guns nor armament 'nor funds
that they can pay,'

But the close coöperation that makes them
win the day;

It ain't the individual nor the army as a
whole

But the everlastin' teamwork of every
bloomin' soul."

Little progress results from work done alone. It is by working in unison and harmony that best results are attained.

Make a resolution now to come to the Indianapolis convention, not primarily for the trip, or for the outing, or for the good time that is sure to be incidental to such a convention, but in the interests of your profession. Once you have made pharmacy your work, give to pharmacy in return the support for its betterment that your connection with it deserves. The profession that succeeds in controlling evil legislation and promoting good governing laws are those whose efforts are reflected in strong cooperative influence brought about by well-attended association meetings.

The committee on arrangements for the August convention to be held at Indianapolis, announces the following schedule of hotels:

CLAYPOOL HOTEL—HEADQUARTERS.

One Person.

Room with detached bath... \$1.50

Room with private bath.... 2.00

Two Persons.

Room with detached bath... \$3.00 to \$5.00

Room with private bath.... 4.00 to 8.00

Two connecting rooms with bath.

Two persons..... \$5.00 to \$8.00

Four persons..... 7.00 to 12.00

Other excellent hotels for those who, for any reason, do not care to stop at headquarters, are: The Severin, the Washington and the Denison. The rates at these hostelrys will

be the same as those at the Claypool Hotel. All three are within two minutes' walk of headquarters.

Good accommodations can also be had at several other hotels within a short walk of the Claypool. Rates of \$1.00 a day and upward have been secured at the Colonial, the English, the Grand, the Edward, the Linden, and the Oneida.

The Puritan and the Williams, two recent additions to the Indianapolis hotels, while more remote than those previously mentioned, are moderate in price and the accommodations excellent.

If you never felt before that your Association needed you, make up your mind now that you and your presence both are a necessity at this time and at this forthcoming meeting. If you are not numbered among the members of the A. Ph. A. at present, there can be no better time to join than now and no meeting at which you can be of greater service to pharmacy than at that to be held at Indianapolis August 27th to September 1st.

The Committee on Publicity,

H. S. NOEL, *Chairman.*

HOW PHARMACISTS MAY DO THEIR BIT.

With preparedness, patriotism and progress as the watchwords of the hour, the time is at hand for all pharmacists to align themselves for service in this nation-wide movement and declare their willingness at least, to have some part in this great humanitarian program. The call to duty has already been sounded and performance, not promise, is urgently demanded of pharmacists and citizens everywhere.

In the City of Indianapolis during the week of August 27th, pharmacists from every quarter of the United States will mobilize for the consideration and discussion of the more vital issues in so far as they appertain to our particular profession.

To the end that the Convention shall be mutually profitable, interesting and instructive, the Section on Commerical Interests of the American Pharmaceutical Association seeks the coöperation and influence of pharmacists everywhere to submit for discussion, suggestions, methods, ideas, or data which have for their object the uplift and betterment of the pharmacist and the weal and welfare of the public we serve.

Contributions may be submitted either to R. P. Fischelis, Secretary, 828 N. 5th St., Philadelphia, or to

P. HENRY UTECH,
209 Chestnut St., Meadville, Pa.

DEATH OF DEAN J. O. SCHLOTTERBECK OF PHARMACY DEPARTMENT, UNIVERSITY OF MICHIGAN.

Just as we are ready to complete the June issue, the sad news comes to us of the death of Prof. J. O. Schlotterbeck. A brief notice will have to suffice at this time and further mention will appear in the July number.

Dr. Schlotterbeck was born in 1865 at Ann Arbor, Mich., and was graduated from the college of which he later became dean, in 1885. He studied for a number of years under Professors Tschirch and Fischer, at the University of Berne, in Switzerland, and it was here that the degree of Ph.D. was conferred upon him. On his return to the United States he was appointed assistant professor of pharmacognosy and materia medica of his alma mater, and dean of the college in 1905.

He was a prominent figure in pharmacy, and took an important part at the meetings of the American Pharmaceutical Association. He has done much research work and has contributed largely to current pharmaceutical literature. He was chairman of the Scientific Section A. Ph. A., 1902-1903, and President of the American Conference of Pharmaceutical Faculties, 1910-1911.

CHICAGO COLLEGE OF PHARMACY.

A Testimonial Dinner, honoring Prof. William B. Day on the completion of the twenty-fifth year of his connection with the Chicago College of Pharmacy, was given at Hotel Sherman, Chicago, June 6. Dr. H. M. Whelpley, of St. Louis, presided as toast master; President Wulling of the A. Ph. A. attended and many guests from Illinois and other states. The Chicago Veteran Druggists' Association were present in a body, also the Women's Organization of the Chicago Retail Druggists and representatives of various other associations. This celebration was under the auspices of the Alumni Association and is appreciated by pharmacy at large.

It is reported that the Pharmacy Department of Northwestern University will become part of the Pharmacy School, University of Illinois.

MASSACHUSETTS COLLEGE OF PHARMACY.

The corner-stone of the new building of the Massachusetts College of Pharmacy was laid May 22 with appropriate ceremony. A large number of pharmacists and citizens of Boston and vicinity participated. During the afternoon of the same day Commencement Exercises were held at the College, preceded by Class Day Exercises.

NEW YORK COLLEGE OF PHARMACY.

An exhibit of artistic and antique mortars is open to the public at the New York College of Pharmacy. Prominent in this exhibit are two mortars loaned by Enrico Caruso, the Italian tenor; they are valued at \$3000 and were purchased from the Morgan collection. The initiative of this display is mainly due to Dr. H. N. Fraser, whose interesting collection is included.

Dean H. H. Rusby has been seriously ill and on this account the expedition to the head waters of the Orinoco River to gather medicinal plants has been delayed, and it is said may be indefinitely postponed.

FORDHAM UNIVERSITY COLLEGE OF PHARMACY.

At the recent get-together dinner of the Alumni, senior and junior classes of Fordham University College of Pharmacy, more than two hundred persons were present. Dean Dr. Jacob Diner was presented with a beautifully engraved cane. Besides the dean, other speakers of the occasion were Professors Horstman and Hohman. Patriotism, preparedness and good-fellowship were the themes that predominated in all talks.

BROOKLYN COLLEGE OF PHARMACY.

The commencement exercises of the Brooklyn College of Pharmacy were held May 16. One hundred and forty-one students were graduated; the degrees were conferred by the dean of the College, Dr. William C. Anderson.

PHILADELPHIA COLLEGE OF PHARMACY.

A house warming was given the Alumni Association of Medico-Chirurgical College by the Alumni Association of the Philadelphia College of Pharmacy, Thursday evening, May 3. The function was a smoker, and the "Chi" boys were made to feel at home. Otto Kraus, president of the Alumni Association of the

Philadelphia College of Pharmacy, was in charge of the arrangements.

The Alumni Association held their annual dinner in LuLu Temple, June 5; entertainment in the form of music, speeches, motion pictures, and dancing were provided. June 3, the Baccalaureate Services were held at the Church of St. Luke and the Epiphany. June 4 was given over to the Alumni Association annual meeting and the Professor's Supper to the graduating class at night; Tuesday to the annual reunion, and Wednesday concluded with the graduating exercises, the degrees being conferred by President Howard B. French and the address to the ninety-sixth graduating class was delivered by Mr. Edward James Cattell.

BAYLOR UNIVERSITY COLLEGE OF PHARMACY.

The commencement exercises of Baylor University College of Pharmacy were held at the Dallas City Hall Auditorium May 29. Dr. S. P. Brooks, president of Baylor University, conferred the degrees.

LOUISVILLE COLLEGE OF PHARMACY.

The forty-sixth annual commencement of Louisville College of Pharmacy was held May 17. President Simon N. Jones conferred the degrees and the class honors were awarded by O. C. Dille, dean of the College.

ST. LOUIS COLLEGE OF PHARMACY.

The commencement exercises of the St. Louis College of Pharmacy were held at Sheldon Memorial, May 16.

Solomon Boehm, the veteran treasurer of the College, completed his half century in the retail drug business April 6, which occasion also marked his eightieth birthday. He received congratulations from many, and from all sections for he is known far and wide for his altruistic spirit, his deep interest for and in pharmacy.

STATE ASSOCIATION MEETINGS.

The dates of meeting of the various state pharmaceutical association conventions are given in the schedules presented in this issue of the JOURNAL, p. XI.

The Louisiana Pharmaceutical Association at its thirty-fifth annual convention, held in New Orleans May 9-12, elected Eugene H. Daste, President; John R. Taylor, of New Iberia and John T. Baltar, of New Orleans, were elected, respectively, First and Second Vice-

Presidents. George D. McDuff was re-elected Secretary, and George S. Brown, Treasurer. The Corresponding Secretary is Miss Aurelia B. Kuhn. Dr. Adolph Henriques, of the Louisiana Medical Association, pledged the support of that body for higher pharmacy requirements. New Iberia was selected for the next annual convention.

Texas Pharmaceutical Association, in thirty-eighth annual convention, elected C. E. Craycroft, of Sherman, President. The other officers elected were Tom J. Snell, Cooper, First Vice-President; Sam P. Harben, Richardson, Second Vice-President; W. C. Burns, San Antonio, Third Vice-President; W. A. Wentland, Manor, Fourth Vice-President; W. H. Cousins, Dallas, Secretary-Treasurer (re-elected); W. J. Graham, Austin, Home Secretary, and Mrs. E. B. Dwyer, Houston, Historian.

The Drug Travelers' Association, an auxiliary to the Pharmaceutical Association, elected the following officers: George T. Reynolds, Dallas, President; J. Linville, Fort Worth, First Vice-President; L. E. Houston, San Antonio, Second Vice-President; H. H. Steed, Dallas, Third Vice-President; and George K. Butcher, Dallas, Secretary-Treasurer.

Loyalty and support was pledged to the Government; resolutions were passed asking for representation on the Advisory Commission to the Committee on National Defense and the establishment of a Pharmaceutical Corps in the U. S. Army. Editor Hugh Craig of the *N. A. R. D. Journal* was present and E. G. Eberle of the *Journal of the American Pharmaceutical Association* was guest of the Association. Waco was chosen for the next place of meeting.

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the *JOURNAL*, unless notice of the change of address is received before shipment or mailing.

Both the old and the new address should be given thus:

HENRY MILTON,

From 2342 Albion Place, St. Louis, Mo.

To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

CHANGES OF ADDRESSES SINCE APRIL 18, 1917.

SIEGEL, H. J.,

From Box 181 R. D. 4, Sacramento, Cal.

To 236 22nd Ave., S., Seattle, Wash.

VARNEY, E. F.,

From 1301 Broadway, Oakland, Cal.

To 1580 Madison St., Oakland, Cal.

CONE, ALFRED I.,

From Hotel Wellington, New York, N. Y.

To "Eldorado," 302 Central Park West,
New York, N. Y.

RUPERT, J. F.,

From U. S. S. Promethius, Mare Island, Cal.

To U. S. S. Georgia, c/o Postmaster, New
York, N. Y.

CAMPBELL, A.,

From 538 Fifth Ave., N., Saskatoon, Sask.,
Can.

To Univ. of Saskatchewan, Saskatoon, Can.

FRIED, LEO H.,

From 199 Summitt Ave., Jersey City, N. J.

To Larch Ave., Cor. Main St., Bogota, N. J.

BEACH, D. C.,

From 175 Jay St., Albany, N. Y.

To 87 Columbia Heights, Brooklyn, N. Y.

ELISBURG, L. A.,

From 2157 W. North Ave., Chicago, Ill.

To 6260 Champlain Ave., Chicago, Ill.

KOCH, HOWARD J.,

From 1020 Turner St., Allentown, Pa.

To Coopersburg, Pa.

KOERBER, CHAS. J.,

From 2621 Girard Ave., Philadelphia, Pa.

To 1724 Spring Garden St., Philadelphia, Pa.

MAXWELL, A. F.,

From 1708 B. St., Pullman, Wash.

To 2114 Dean Ave., Spokane, Wash.

STAM, D. F.,

From Easton, Md.

To Main St. & Belvidere St., Arlington, Md.

DECEASED SINCE APRIL 18, 1917.

FARMER, F. E., Rutland, Vt.

HURD, JOHN CHAS., Somersworth, N. H.

MAIN, THOMAS FRANCIS, New York, N. Y.

STIEFEL, ALBERT F., Pittsburgh, Pa.

UNITED STATES PUBLIC HEALTH SERVICE.

List of changes of duties and Stations of commissioned and other officers of the United States Public Health Service:

Phar. F. L. Brown. Re-assigned to duty at the Reedy Island Quarantine Station, effective March 26, 1917. April 26, 1917.

Phar. F. L. Gibson. Granted 5 days' leave of absence from April 17, 1917. April 17, 1917.

Phar. J. M. Bell. Re-assigned to duty at the Savannah Quarantine Station, effective March 5, 1917. April 26, 1917.

Phar. C. O. Sterns. Re-assigned to duty at the Hygienic Laboratory, Washington, D. C., effective Sept. 26, 1917. April 26, 1917.

Phar. Paul C. Jones. Proceed to the Marine Hospital, Detroit, Mich., for duty and assignment to quarters. April 28, 1917.

Sanitary Chemist A. F. Stevenson. Represent the Service at the meeting to be held at Philadelphia, Pa., May 2-3, 1917, to consider problems connected with the milk industry. May 3, 1917.

Asst. Physicist D. H. Tuck. Proceed to Milwaukee, Wis., to make a study of shop lighting conditions in coöperation with the Wisconsin Industrial Commission. May 7, 1917.

Technical Asst. M. G. Motter. Represent the Service at the Conference on Drug Addiction, at New York, N. Y., May 15, 1917. May 14, 1917.

Sanitary Engineer R. E. Tarbett. Proceed to Kanuga, N. C., to make a sanitary survey of that place and vicinity. May 10, 1917.

Constructing Engineer N. V. Perry. Proceed to Cincinnati, Ohio, to make a general inspection of the buildings and mechanical equipment at that station. May 9, 1917.

APPOINTMENT.

Paul C. Jones appointed a Pharmacist of the Third Class in the Public Health Service. April 18, 1917.

BOOK NOTICES AND REVIEWS.

Incompatibilities in Prescriptions. For students in pharmacy and medicine and practicing pharmacists and physicians. By Edsel A. Ruddiman, Ph.M., M.D., Professor of Pharmacy and Materia Medica, Department of Pharmacy, Vanderbilt University; Author of "Whys in Pharmacy" and "Manual of Materia Medica." Fourth Edition, thoroughly revised. Price \$2 net. John Wiley & Sons, New York.

This work of Professor Ruddiman has been reviewed in former editions and much of that which might be said of it would be a repetition of such comment. The book has come into quite general use at the prescription counter and therefore pharmacists are thoroughly familiar with the plan of former editions, which in revised form is maintained in the present volume. Remedies that have come into more general use since the last revision are included and discussed, especially from the standpoint of their physical and chemical action in combination with other constituents of prescriptions.

The prescriptions now number 450; with the exception of fifty, the incompatibilities occurring are explained; those not accompanied by explanations are intended for analysis by the student of pharmacy, indicating that while

primarily the book is intended for the dispenser an opportunity for applying the knowledge acquired in practice is afforded the student. We are struck with the few prescriptions written in the metric system, showing that at the sources from which these are drawn the physicians adhere to the old system of weights and measures. There are no prescriptions to be dispensed in ampuls, neither of those containing mercuric salicylate and some other remedial agents in quite general use.

The volume gives in convenient and condensed form information that is not readily available in other books and certainly is valuable not only to dispensers but students, which fact is attested by the reception given to this work heretofore and will be accorded this revised and enlarged edition. It should be mentioned that in the first 117 pages, constituting Part I of the volume, the more commonly used drugs and chemicals are alphabetically listed and their incompatibilities with other substances commented upon.

The table in previous editions, giving average prices charged for prescriptions has been advantageously displaced by the N. A. R. D. Schedule. The table of solubilities has been revised and enlarged.

Botanic Drugs: Their Materia Medica, Pharmacology and Therapeutics. By Thomas S. Blair, M.D., Author of "Public Hygiene," "A Practitioner's Handbook of Materia Medica and Therapeutics," etc. Large type fully indexed, 394 pages. Price, \$2.00. Cincinnati: Therapeutic Digest Pub. Co., 1917.

Pharmacists need not be told of an increasing scarcity of imported medicinal products; experience has conveyed the information and also awakened the thought that native supplies should be utilized to a larger extent. The plea made by some, that preparations of the galenicals should be more freely prescribed is worthy of repetition; one of the most forceful advocates of return to drugs is Professor A. Tschirch, whose forceful contributions on this subject found place in the pharmaceutical press several years ago. It may be true that drug plant growing has not made the progress hoped for, but there has been development, indicated not only by the experiment farms of pharmaceutical manufacturers but by the smaller gardens in connection with pharmacy

schools. The study of plant drugs by pharmacists is essential to a larger use of galenicals and the book under discussion presents useful information prepared by a trained pharmacologist and active practitioner, who is familiar with drug activities. In connection with the description of the plants, the therapeutic action of these drugs is given and also the dosage in which they are to be prescribed. The pharmacist will find the book useful and not burdened with a large amount of unimportant or obsolete information; recent investigations on the subject are presented instead, and the drugs of lesser importance only briefly discussed or indexed.

Potter. Compend of Materia Medica, Therapeutics and Prescription Writing. Eighth Edition. Revised in accordance with the U. S. P. IX, by A. D. Bush, B.S., M.D., Professor of Physiology and Pharmacology, University of Southern California. Price, \$1.25. P. Blakiston's Son & Co., Philadelphia.

THE METRIC SYSTEM.

The vitality and tenacity of life in habit, custom and systems is nowhere more clearly demonstrated than in the retention by the British Empire and United States of the cumbersome and unbusinesslike system of weights and measures based on the arbitrary pound, yard and gallon.

Optimists during half a century have clearly visualized the adoption "in the near future" of a "sane system" based on the decimal unit and its universal operation, and to-day's optimist is still privileged with the experience of the alluring vision. Fortunately the materializing of the vision is brought squarely within the terrain of present operations by the world war and the inevitable post-bellum readjustment.

The firmly entrenched position of the present system was impressed on us by an article in the JOURNAL of July, 1868, nearly fifty years ago, under the bewhiskered title of "Weights and Measures." A sentence in this article we reproduce:

"The confusion arising from different standards of weights and measures having the same name could be remedied by the adoption of a decimal system, in the same way as we got rid of the old nuisance of pounds, shillings and pence by using dollars and cents in our money matters."—*Canadian Pharmaceutical Journal*.

JOURNAL ANNOUNCEMENTS.

Subscriptions: Annual subscriptions in advance, including postage: United States and Mexico, \$4.00; Canada, \$4.35; foreign countries, \$4.50. Single copies, 35 cents. Remittances should be made payable to Treasurer H. M. Whelpley, but mailed to JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, Easton, Pa., or 253 Bourse Building, Philadelphia, Pa. Under the rules of the Post Office the JOURNAL can be regularly mailed only to bona-fide paid subscribers.

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Further information will gladly be furnished by any of the officers of the Association and members.

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SHOW YOUR INTEREST IN PHARMACY.

For several months past a request has appeared in the JOURNAL that members indicate whether they desire a cut of the insignia of the Association with name "Member" above, as appended, for their Prescription Blanks. A sufficient number of members have signified their interest and therefore these cuts may now be had by addressing the JOURNAL Office as below.

The cost of single type-cut, including postage, is fifteen cents; when two are ordered at the same time, twenty-eight cents. The charge is simply to cover cost and postage.



THE JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

253 BOURSE BUILDING

PHILADELPHIA

PENNSYLVANIA

JULIUS OTTO SCHLOTTERBECK, Ph.C., Ph.D.

1865 – 1917

President of the American Conference of Pharmaceutical Faculties 1910 – 1912

“Ability, loyalty, faith and vision were the outstanding traits of Dr. Schlotterbeck’s character. These he defined in his daily work, he lived them and inspired others to live them. Through his loyalty, vision and ability he made better men and women—and better pharmacists by his faith in man and in pharmacy.”



J. O. SCHLOTTERBECK

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. VI

JULY, 1917

NO. 7

J. O. SCHLOTTERBECK.

Julius O. Schlotterbeck was born in Ann Arbor, Michigan, on September 1, 1865. Both his parents were Germans. He received his primary education in the grade schools of Ann Arbor and for several years worked in John Moore's drug store on Huron Street.

In 1885 Mr. Schlotterbeck entered the School of Pharmacy of the University from which he graduated in 1887, receiving the degree of Pharmaceutical Chemist—the only degree that was given at that time. During 1887–1888 he was in charge of the Eagle Pharmacy, 1924 Carson Street, Pittsburgh, Pa. In the Fall of 1888 he returned to the University of Michigan as Assistant in Pharmacy and in charge of Pharmacognosy, at the same time pursuing studies in the College of Literature, Science and the Arts from which he graduated in 1891, receiving the degree of Bachelor of Science in Chemistry.

From 1892 to 1895 he was instructor in Pharmacognosy and Botany. The following year he studied at the University of Berne, Switzerland, where he received the degree of Doctor of Philosophy. The major portion of his work here was under Professor A. Tschirch, who recognized his unusual ability. The friendship thus formed continued to the end. On returning to Ann Arbor in 1896, he was made Assistant Professor of Pharmacognosy; he was advanced to the rank of Junior Professor in 1904, and, on the death of Dr. Prescott in 1905, was made Dean of the College of Pharmacy. He was granted a leave of absence for two years, from October 1, 1912 to October 1, 1914, to establish an experimental laboratory for the J. Hungerford Smith Company, Rochester, N. Y. After returning to the University he retained his connection with the above firm in an advisory capacity.

Last September, while attending a meeting in New York, Dr. Schlotterbeck was taken with severe pain which was relieved. But early in December he had a second attack and was taken to the hospital where he remained only a few days. He then stated that with proper food no further trouble was expected. However, early in January it was necessary for him to go to the hospital again. After several weeks he was taken home where he gradually failed until the end came, June 1.

Dr. Schlotterbeck was deeply interested in everything pertaining to the elevation of pharmacy and was, I believe, one of the best teachers of Pharmacognosy in this country. The College of Pharmacy and also pharmaceutical education has lost a valuable teacher whose place it will be hard to fill. He was Secretary of the American Conference of Pharmaceutical Faculties from 1904 to 1908, and President of the same in 1910–11 and 1911–12; member of the present Committee

for the revision of the U. S. P.; Chairman of the Scientific Section of the A. Ph. A. 1902-3; Third Vice-President; member of the Executive Committee and Chairman of Research Committee of the Flavoring Extract Manufacturers' Association.

Dr. Schlotterbeck was especially qualified for research work and has published many papers giving the results of his investigations, two of which received the Ebert prize. A complete list of his publications may be found in the "History of the Chemical Laboratory of the University of Michigan," by Edward D. Campbell.

On August 11, 1898, Dr. Schlotterbeck was married to Eda May Clark, B.L. '91, B.S. '97, of Ann Arbor, who has been a most devoted wife. He has left three children, Prescott Golder, a freshman in the University; Miriam Arda, in the high school; and Karl Theodore, eleven.

A. B. STEVENS.

To the Editor, JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION:

Permit me to call attention to an error in the title, and therefore also in the text, of a paper contributed by Mr. C. Verne Nichols to the June, 1917, number of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION (pp. 540-542). The paper in question is entitled, "Effect of the rays of the sun upon the formation of amygdalin in wild cherry bark," and the inaccuracy of statement to which it seems desirable that attention should be directed consists in the fact that wild cherry bark does not contain amygdalin. It was shown quite conclusively several years ago by Power and Moore (*Jour. Chem. Soc.*, London, 1909, 95, pp. 243-261), that the cyanogenetic constituent of the respective bark is laevo-mandelonitrile glucoside, $C_{14}H_{17}O_6N$, a compound which was first obtained by Emil Fischer in 1895 by the partial hydrolysis of amygdalin: $C_{20}H_{27}O_{11}N + H_2O = C_{14}H_{17}O_6N + C_6H_{12}O_6$. Its occurrence in nature was first observed by Hérissé, who, in 1907, obtained it from the young twigs of *Prunus Padus* Linné, and in 1909, as above noted, it was isolated in a pure crystalline state from the bark of *Prunus scrotina* Ehrhart. The same compound was subsequently shown to be contained in the leaves of *Prunus serotina*, and it is an interesting biological fact that the occurrence of amygdalin appears to be restricted to the seed of the plant, as notably in the case of the bitter almond. The racemic form of mandelonitrile glucoside was obtained by Hérissé in 1905 from the leaves of the cherry-laurel (*Prunus Lauro-cerasus* Linné), and was termed "prulaurasin," whereas the dextro form, designated as "sambunigrin," was isolated by Bourquelot and Danjou in 1905 from the leaves of the common black elder (*Sambucus nigra* Linné). It follows from the above mentioned facts that the amounts of hydrocyanic acid obtained by Mr. C. Verne Nichols from wild cherry bark should be computed for a compound of the composition $C_{14}H_{17}O_6N$, and not for amygdalin.

It is to be regretted that the investigations which have here been noted do not appear as yet to have received consideration in the principal American works of reference on such subjects, and they are therefore likely to be overlooked by those to whom the periodical chemical literature may not be available.

FREDERICK B. POWER.

BUREAU OF CHEMISTRY,
U. S. DEPARTMENT OF AGRICULTURE,
WASHINGTON, D. C.

EDITORIAL

E. G. EBERLE, Editor

253 Bourse Bldg., PHILADELPHIA

JUSTICE TO THE PHARMACIST.

UNDER the above caption an editorial appeared in the *Journal of the American Medical Association* (June 16, 1917). In the same number a letter from Mr. J. W. England is printed in which attention is called to the standing, or no standing, of the pharmacist in the Army and that there is no provision whatever for a pharmaceutical corps in the military organization.

The editorial referred to concludes as follows:

"To-day, as never before, victory in war goes to the nation that most effectively conserves the health of its fighting men. The physician is now of such military importance that the medical profession will be called on to make no inconsiderable sacrifices. It will materially lighten the arduous duties and responsibilities of the physician to have in the Army trained pharmacists who will be able to give intelligent coöperation. But it is imposing too great a strain on the patriotism of those whose special knowledge is obviously a large asset to the Army, to expect them to enlist as privates without any recognition of their national worth. Pharmacists should be given a rank commensurate with their importance, first because it is but simple justice to the pharmacists themselves, secondly, because the usefulness of the medical corps will be greatly augmented and, lastly, and most importance, because the efficiency of our Army demands it."

In the *Journal A. M. A.* for June 23, President Frederick J. Wulling expresses his appreciation for the timely editorial referred to, and *this* writing has as one of its objects, an acknowledgment of the consideration given and further to express pleasure and gratification for the evidence of coöperation in this endeavor on the part of the American Medical Association with the American Pharmaceutical Association.

Dr. S. Solis Cohen, in the Correspondence column of the *Journal A. M. A.* for June 23, p. 1934, endorses the editorial and letter referred to and suggests that physicians write the Medical Department of the Army in support of the movement. The following extract is taken from Dr. Cohen's letter:

"The importance of the pharmacist as first aid to physician and surgeon ought not to require emphasis. Not only is the technical skill and knowledge of the trained pharmacist required in the procurement and preparation of medicines, antiseptic solutions and the like, but also, with but slight intensive preparation, it could be made highly useful in the hospital wards and in the clinical and research laboratories.

"In order that this varied usefulness may be developed to the highest point, and thus contribute to the most efficient conduct of the war and to the best possible care of the sick and wounded, the type of men attracted to the pharmaceutical service of the Army and Navy should be high, and their merit should be adequately recognized by their commissioning as officers."

The American Medical Association at the last annual meeting, held in New York City a few weeks ago, endorsed the provision for a pharmaceutical corps in the Army, and that pharmacists in the service be given commissions.

Not only does justice demand that the professional services of pharmacists

be recognized but there is need of these services for those who enlist in the cause of their country. An anomalous condition obtains because the question of legal recognition of pharmacists by the government and every state, except in Army service, has long ago been settled. The adoption of the official standards is offered as unquestionable evidence, for only persons qualified by education and experience can use these intelligently and successfully; quite a number of states exact as prerequisite for pharmaceutical practice that persons so engaged must be graduates of colleges of pharmacy. A pharmacy law has been provided for the District of Columbia. On the other hand, enlisted men, who have had no previous pharmaceutical training, are being coached for hospital service in minor medical treatments, dispensing and preparation of medicines, etc., in a course extending over a period of three months. Colleges of pharmacy require of their students preliminary education, experience in drug stores over a period of more than three years, and not less than two years' attendance at school before a certificate of proficiency is given their students. An emergency exists; but in civic life, physicians require the services of pharmacists; why not in the Army, where the lives of many may be jeopardized? Every means of conserving health and life has a determinable value, so also the waste of talent and service is as reprehensible as waste of material.

If the present crisis had prompted the action of pharmacists then it might be considered as a selfish move, but for many years, in spite of discouragements, the American Pharmaceutical Association has continuously labored to secure justice for pharmacists, and now that there is urgent need, the efforts of the Association have been energized and supplemented. In the annual report for 1912 of the Surgeon-General to the Secretary of War, he made a strong plea for the increase and improvement of the status of the Army Hospital Corps.

Pharmacists are entitled to and should have representation on the Advisory Commission to the Committee on National Defense. The present maldistribution of functions in the Army should be corrected in justice to pharmacists, for better service of the physicians and of all enlisted in our country's cause. The best service possible is not too good for our soldiers.

"The Nation needs all men, but it needs each man, not in the field that will most please him, *but in the endeavor that will best serve the common good.*"

—From President Wilson's Proclamation.

E. G. E.

JUSTICE TO THE MEN IN THE MILITARY SERVICE DEMANDS BETTER PHARMACY.

IT must be admitted that under present conditions there is no great need for trained pharmacists in the Army; the same affirmation is applicable as an argument that the Service, as now constituted, is neither adequate nor efficient—

the pivotal points of modern warfare are science and efficiency. The soldier is entitled to the best available medical and surgical attention, and this is impossible without the best pharmaceutical service.

With the exception of England, all the more important countries engaged in the European war, prior to the entrance of the United States, provided for pharmaceutical corps in their army organizations. England is giving the matter serious consideration, while Australia has already established a pharmaceutical corps, Canada has not perfected such organization.

It must be admitted that at the battle front, compactness and portability are of greatest importance, but even here where tablets and a very limited range of medicaments can only be employed, there is need for men who have knowledge of what they are administering and dispensing. Caution, alone, is not sufficient protection against error—the resultant responsibility that develops from the knowledge of medicines is a more effective safe-guard. In the *British Pharmaceutical Journal* of June 2, 1917, occurs the following statement which is applicable: "We have already had to report several cases of fatal poisonings in military and quasi-military hospitals, in which unqualified dispensers were employed; and considering the number of pharmacists in the Army and Navy, there seems to the *mere civilian* no valid reason why their professional services should not be utilized more fully and effectively." It is fair to assume that at the front the occurrence of such accidents are far more frequent than in the hospitals, nor can the errors be as readily detected while the conflict is going on.

A liberal allowance must be made for seeming dereliction by the War Department in not taking up the matter of establishing a pharmaceutical corps, without awaiting the agitation of pharmacists and medical men. The officials must endeavor to avoid mistakes of commission as well as omission. The importance of our demands should be impressed by facts and sound arguments, and these must largely be authenticated by pharmacists with coöperation of *all* concerned in securing the best pharmaceutical service for the Army, therefore the helpfulness of medical men is of great value in asserting our claims. The points to be stressed, however, are that pharmacists must *show* the necessity for a pharmaceutical corps and outline a plan for its organization. The rendition of this assistance and information devolves on pharmacists and the sincerity of their purpose must be persistently reinforced by staying qualities; "effervescence" has no place in this important matter.

It is hardly necessary to say that the proposition is destined to failure, if no other service is to be rendered than at present, or even if additional functions or duties are to be added. Pharmacy should have first consideration in the organization of a pharmaceutical corps. The assumption of part of the work of physicians and of nurses is practicable in a degree, but within the province of pharmacy, or at least closely related, there are possibilities for chemical, clinical, biological,

dietetic, Roentgen-ray, toxicological and other scientific work—this includes, of course, soil and water analyses. There may also come the necessity for limited pharmaceutical and chemical manufacturing, aside from dispensing, and surely, knowledge of drugs and chemicals and how to properly keep them has more than economic value. Perhaps most of those who enlist would require special instruction, according to grades or rank, but such provision obtains in all divisions of the Army and Navy and is now provided for physicians and surgeons in training them for active service. Locally, Army hospitals are established and laboratories of schools of pharmacy can, if necessary, be utilized for research work, in fact, the Government has already tentatively accepted the facilities of several schools, including their drug gardens.

The statement of Chairman S. L. Hilton bears repetition: "We must work together." While the opportunities may come in a different way in different localities, success will only be achieved by "working together" and presenting an unbroken front, unswerving in our determination for a cause we know to be just, that will make possible a service, not attainable under present conditions, and reflect credit on pharmacy.

The great objective points in this movement are, to show that pharmacy has a mission, and is of invaluable service to the Army, whether on a war or peace footing; to provide a proper system for organization of a pharmaceutical corps and to effect its establishment. All sections of the American Pharmaceutical Association and also the Conference of Pharmaceutical Faculties should have papers on the subject based on these related viewpoints—not the least in importance a schedule for the organization of a pharmaceutical corps of the Army and a systematic listing of the work therein by pharmacists in the several ranks that may be provided. There is no place for day-dreams in this important project which means so much for pharmacy. The tests that should be applied are those determining the feasibility, practicability and possible efficiency of such an organization. A paper by Mr. J. W. England on the subject was read before Pennsylvania Pharmaceutical Association, and is printed in this issue of the JOURNAL.

There is at present no provision for a pharmaceutical corps in the Army and such establishment requires the favorable action of Congress. Some missionary work has been done in the furtherance of the measure. Several years ago, and at different times, bills have been on the calendar of Congress for such enactment, while they met with favor, delay for one reason or another, and perhaps opposition, resulted in failure, but now is a most opportune time. As President Wulling says, "It is the psychological moment;" at any rate the provision is needed for conserving the life and health of those enlisted in the country's cause. The consummation will require much energetic coordinated coöperative work. Are you sufficiently interested? If so, "do your bit."

E. C. E.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

ANALYSIS OF THE SEEDS OF GYMNOCLADUS CANADENSIS.*

(Kentucky Coffee Tree.)

BY G. N. WATSON AND L. E. SAYRE.

The Kentucky Coffee Tree grows in the section from Canada south and west to Nebraska and Kansas. It is a large tree, growing 50 to 60 feet high in the north and considerable higher in the south. In the north it is sometimes called Chicot or Stump tree. It has a rough bark, large bipinnate leaves, 2-3 feet long; 7 to 15 leaflets, ovate or acute; glabrous or pubescent on veins beneath; racemes, many flowered; seeds, hard, $\frac{1}{2}$ inch across, imbedded in a sweetish, acrid and somewhat mucilaginous pulp.

A few cases of poisoning have been reported from the eating of some part of the fruit of the Kentucky Coffee Tree. This matter was first brought to our attention in a practical way, during the past year, when a few of the seeds were sent to the laboratory from Pleasanton, Kansas, for investigation. The eating of some of these seeds was reported to have caused the death of a child in that town. It has been impossible to get the history of the case from the two attending physicians and, too, it could not be definitely learned whether the poisoning was caused from eating the seeds or the fruit-pulp, which the literature on *Gymnocladus* seems to indicate as being the most common source of poisoning.

An analysis of the seeds gave results as follows:

Ash.....	4.25%
Moisture.....	8.76%
Material by Acid Conversion, calculated as starch.....	16.00%
Sugar, by direct polarization.....	18.40%
Reducing sugar.....	None
Proteid (N \times 6.25).....	30.43%
Fixed oil.....	20.12%
Wax and resinous matter.....	2.10%

An examination of the oil showed constants as follows:

Saponification Value.....	195.09
Iodine Number.....	135.21
Refractive Index at 20° C.....	1.4750
Color, bright yellow; taste, bland.	

The constants of this fixed oil show a high saponification value and a comparatively low iodine number and run nearly parallel with those for Devil's Claw and Walnut oils.

Qualitative examination of the seeds indicate the presence of saponin and a toxalbumin, similar, if not identical, with that of ricin, the poisonous principle found in the castor bean.

It is a well-known fact that the roasted seeds of *Gymnocladus* are often eaten by children with impunity and no cases of poisoning have been reported, except where the raw seeds were eaten; the poisonous principle, evidently, having been destroyed by heating. This we know to be true of both saponins and toxalbumins.

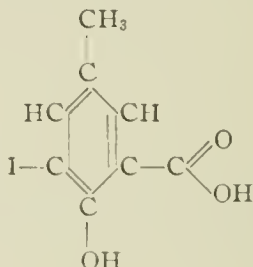
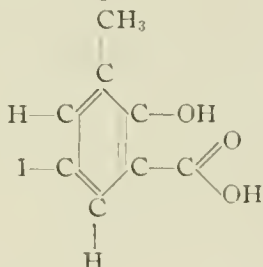
* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

IODIZATION OF *o*- AND *p*-CRESOTINIC ACID.*

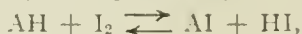
BY J. A. W. LUCK.

o-Cresotinic acid or 2-oxy-1-methyl-3-carboxyl-benzene and *p*-cresotinic acid or 4-oxy-1-methyl-3-carboxyl-benzene,¹ according to the Crum-Brown-Gibson rule, yield by direct iodization only mono-iodine derivatives. The directive influence of the hydroxyl group causes the introduction of iodine into the ortho and para position. The methyl group also influences the introduction of the iodine in the same manner, while the carboxyl directs the iodization to the meta position.

Since the ortho positions to the hydroxyl group are both occupied in the *o*-cresotinic acid, and since the combined directive influence of the hydroxyl and carboxyl groups outweigh the influence of the methyl group, substitution of iodine will only occur in the 5-position, methyl being 1, which is para to the hydroxyl and meta to the carboxyl group. Similarly, *p*-cresotinic acid will yield only 5-substitution of iodine, which is ortho to the hydroxyl and meta to the carboxyl groups. The configurations therefore are:



As shown by Kekulé,² the reaction between iodine and a carbon compound is a reversible one which may be expressed by



where A is a radicle. To bring the reaction to completion it is therefore necessary to remove the hydriodic acid as fast as it is formed. This can be accomplished by oxidizing the hydriodic acid to I_2 and H_2O . This method has been extensively used to iodize ring compounds which are not attacked by oxidizing agents. Kekulé³ used I_2 and HIO_3 to obtain phenyl iodide from benzene. Heating with concentrated H_2SO_4 and I_2 was used by Neuman⁴ to obtain the same substance. Terephthalic acid was iodized by Rupp,⁵ using fuming H_2SO_4 and I_2 , obtaining a mixture of tetra-iodo terephthalic acid and hexa-iodo benzene. Joraslawzew⁶ used $Na_2S_2O_8$ and I_2 to iodize benzene and its homologues.

The removal of the hydriodic acid in the form of metallic iodides has been extensively used in the iodization of hydroxy benzene derivatives. Messinger and Vortman,⁷ Kalle & Company,⁸ used a solution of I_2 in KI, which was added

* Contribution from the Chemical Laboratory of the University of California.

¹ M. M. Richter Verz.

² A. 131-122.

³ A. 137-162.

⁴ A. 241-84.

⁵ B. 29-1631.

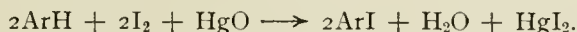
⁶ Giessen Thesis, 1914.

⁷ B. 22, 2312, 1889.

⁸ D. R. P. 106504.

to an alkaline solution of phenol, cresol, etc., which, upon acidification, yielded tri-iodo derivatives. Classen and Loeb⁹ used a borax solution of phenolphthalein obtaining tetra-iodophenolphthalein. This method has been used to detect benzoic acid in salicylic acid, the benzoic acid yielding no iodine derivative under these conditions. Haase¹⁰ treated an alkaline solution of *o*-cresotinic acid with a slightly less quantity than molal iodine dissolved in KI solution, and precipitated with a mineral acid. He obtained a mono-iodo derivative having a M. P. 204° C. This is listed by Stelzner¹¹ as 5-iodo-2-oxy-1-methyl-3-carboxylbenzene. By using this method, the writer obtained an iodine derivative having a M. P. 237° C.

Oxides of the heavy metals PbO, HgO have also been used. Weselsky¹² dissolved salicylic acid in 90 percent alcohol, heated under reflux condenser and added small portions of I₂ and HgO, obtaining di-iodo salicylic acid,



The constitution of the iodine derivatives may be determined by replacing the iodine by other groups, forming compounds whose constitutions are known. Of the halogens both Br and Cl have been replaced by NO₂, by treating the halogen derivatives dissolved in glacial acetic acid with NaNO₂, see Zincke.¹³ In a similar manner, I can be replaced by NO₂.



By fusing the iodine derivatives with KOH or NaOH replacement of I by OH occurs. The procedure depends upon the stability of the substance used. The iodo cresotinic acids resinify readily upon heating with alkali. This can be partially prevented by fusing at low temperatures and the addition of PbO or Pb(OH)₂ freshly prepared.

During the fusion oxidation of side chains frequently occurs, Barth.¹⁴ This is accelerated by the presence of MnO₂, CuO, Fe₂O₃. Oppenheim & Plaff,¹⁵ Koenig & Heyman.¹⁶ Ag₂O behaves similarly, the methyl group being oxidized to COOH yielding derivatives of isophthalic acid from cresotinic acid. This is expressed in the simplest manner by the equation



EXPERIMENTAL.

(1) *o*-Cresotinic Acid.—Dissolve 6 Gm. of *o*-cresotinic acid in 100 Cc. of 95 percent alcohol, add 10 Gm. of I₂ and heat to boiling under reflux condenser, gradually add in small quantities of 4.3 Gm. HgO, vigorously rotating flask after each addition. Soon after the last portion of HgO has been added the liquid has a pale yellow color, the HgO combines with the HI liberated, forming HgI₂. The total time is from 20 to 30 minutes. Filter the liquid into a solution of KI, to remove the HgI₂ which is slightly soluble in alcohol; wash the HgI₂ on the filter paper

⁹ B. 28, 1609, 1895.

¹⁰ D. R. P. 224536 C. 1902 (2) 700.

¹¹ *Verz. Org. Verb.*, 1910-11, page 437.

¹² A. 174-103.

¹³ *Jp.* (2) 61, 564, 1900, compare Rayford & Heyl, *A. Chem. J.*, 43, 393.

¹⁴ A. 154-360.

¹⁵ B. 8, 887.

¹⁶ B. 19, 704.

with alcohol and dilute the solution with water, bringing the total volume to 500 Cc. Filter on suction pump. Redissolve the precipitate in hot alcohol and dilute with boiling H_2O to twice the volume. Upon cooling the iodized cresotinic acid crystallizes in long, shining needles. Recrystallize from dilute alcohol. Yield, 90 percent of theory.

Faintly yellow, long, shining needles sublime at $140^\circ C.$, without decomposition. Soluble in alcohol, acetone, ether, chloroform, hot glacial acetic acid; slightly soluble in H_2O . M. P. $237^\circ C.$ with decomposition, losing iodine at $225^\circ C.$ The alcoholic and aqueous solutions give with $FeCl_3$ solution a violet color. The analysis for iodine by Pringsheim's method,¹⁷ Weyl,¹⁷ Lassar-Cohn,¹⁸ yielded:

I found: 46.04 percent

I theory: 45.66 percent

(2) *Ethyl Ester*.—2 Gm. of the iodized acid were dissolved in 100 Cc. absolute alcohol, adding 20 Cc. H_2SO_4 and heated on water bath under reflux condenser for three hours. Pour into cold water, cool and filter. Recrystallize from alcohol. Short needles. M. P. $78^\circ C.$ Soluble in NaOH solution. Nearly insoluble in solution of sodium carbonate.

I found: 41.2 percent

I theoretical: 41.48 percent

(3) *Nitro Derivative*.—Dissolve 5 Gm. of iodized cresotinic acid in 50 Cc. glacial acetic acid by heating on the water bath; add 2.5 Gm. of solid $NaNO_2$. When reaction subsides pour into cold H_2O and let cool. Filter, to filtrate add 10 Cc. 6 N NaOH followed by H_2SO_4 ; a solution of Na_2SO_4 will do as well; filter and dissolve the two crystallized nitro acids in a 1 N NaOH solution. Dilute to twice the volume and add a solution of 3 percent H_2O_2 to oxidize nitroso derivatives. Heated to boiling, the solution becomes faintly yellow. Let cool and acidify with H_2SO_4 , recrystallize from dilute alcohol. M. P. $198^\circ C.$ Long, faintly yellow needles; soluble in alcohol, ether, and slightly soluble in water. The aqueous and alcoholic solutions give a cherry-red color with $FeCl_3$ solution. Einhorn & Phyl¹⁹ nitrated *o*-cresotinic acid and obtained a nitro derivative M. P. $199^\circ C.$; see Kostanecki and Niementowski.²⁰ Borshe and Beckhout²¹ condensed 5-nitro-2-oxy-1-methylbenzene with formaldehyde in the presence of H_2SO_4 . The condensation product upon hydrolysis yielded 5-nitro-2-oxy-1-methyl-3-carboxylbenzene. M. P. $199^\circ C.$

(4) *Replacement of I by OH*.—5 Gm. of the iodized cresotinic acid and 50 Gm. KOH were fused in a silver evaporating dish at $175^\circ C.$ and kept at this temperature for two hours. After cooling the melt was dissolved in cold water, acidified with H_2SO_4 , and cooling the liquid carefully so that the temperature did not rise above $20^\circ C.$ Let stand for six hours and filter. Extracting the filtrate with ether, the ethereal solution upon evaporation yielded a brown mass. The brown mass was dissolved in hot alcohol, diluted with an equal volume of water and filtered. Heating this solution on the water bath, until nearly all the alcohol had evaporated, it was cooled, filtered, and extracted with ether. The residue from the ether extract gave by heating a white sublimate melting at $123^\circ C.$ The

¹⁷ Vol. 1, page 52.

¹⁸ Vol. 1, page 325.

¹⁹ A. 311-47-48.

²⁰ B. 18, 254.

²¹ A. 311-47-48.

aqueous solution of this sublimate gives with FeCl_3 a brown-red color. It dissolves in a solution of NaOH with a green color which turns brown when exposed to air. Toluhydrochinon melts at 124°C . and behaves similarly.

(5) 5 Gm. of the acid dissolved in 150 Cc. of 6 *N* KOH solution and evaporated in a silver evaporating dish until the temperature reached 135°C . After maintaining the temperature of the melt between 135° and 140°C . for three hours, it was cooled and treated as previously described. The residue of the ether extract was dissolved in alcohol and diluted with water, evaporated to half the volume on the water bath and cooled in a freezing mixture. The solution was filtered and extracted with ether. After the ether had evaporated, a yellow crystalline mass of indefinite melting point was obtained. By repeating this three times a white crystalline substance was obtained, which was recrystallized from a mixture of ether and alcohol. White needles, M. P. 215°C . The alcoholic solution gives a blue color with FeCl_3 which turns green upon further addition of FeCl_3 . The analysis for carbon and hydrogen gave:

Found: C, 57.5

H, 4.4

Theoretical: 57.14

$\text{C}_8\text{H}_8\text{O}_4$: 4.79

The analysis corresponds to a dioxytoluic acid,²² 2,5-dioxy-1-methyl-3-carboxylbenzene. M. P. 215°C ., Schering.²³

(6) Repeating the fusion but adding 15 Gm. freshly precipitated $\text{Pb}(\text{OH})_2$ to the fused mass at 135°C ., and observing conditions as described under (5). Less resin is formed and a larger yield of dioxytoluic acid is obtained. This acid can be readily separated from toluhydrochinon and *o*-cresotinic acid by heating on a hot plate at 110°C . Toluhydrochinon and *o*-cresotinic acid sublime. No decomposition of the dioxytoluic acid occurs at this temperature. When using Ag_2O instead of $\text{Pb}(\text{OH})_2$, three substances were obtained with melting points at 163°C ., 215°C ., and 238°C ., respectively. *o*-Cresotinic acid melts at 163° – 164°C . The substance melting at 215°C . behaves as previously described and yielded on combustion:

Found: C, 56.94 percent

H, 4.84 percent

Theoretical: C, 57.14 percent

$\text{C}_8\text{H}_8\text{O}_4$: H, 4.79 percent

The substance melting at 238°C . gives in alcoholic solution a red color with FeCl_3 ; this is characteristic of oxyisophthalic acids. Analysis for carbon and hydrogen:

Found: C, 52.76 percent

H, 3.8 percent

Theoretical: C, 52.73 percent

$\text{C}_8\text{H}_6\text{O}_5$: H, 3.32 percent

An acid melting at 239°C . having a composition $\text{C}_8\text{H}_6\text{O}_5$ is listed as 2-oxy-1,3-dicarboxylbenzene.²⁴

(7) Para-cresotinic acid was iodized as described under ortho-cresotinic acid. The acid crystallizes in long, shining needles. M. P. 210°C .; loses iodine at 203°C . Soluble in alcohol, ether, acetone, chloroform, glacial acetic acid and slightly soluble in H_2O . The alcoholic solution gives a violet-blue color with FeCl_3 , which is changed by traces of OH^- to a purple color. Analysis for iodine gave:

I found: 45.71 percent

I theoretical: 45.66 percent

²² Beilstein, II, 1033.

²³ D. R. P. 81297.

²⁴ Beilstein, II, 1936.

(8) *Ethyl Ester*.—Preparation as under ortho. Crystallizes from alcohol in small plates. M. P. 94°C .

Analysis for iodine:

I found: 41.43 percent

I theoretical: 41.48 percent

(9) *Replacement by NO_2* .—By method described under (3). It crystallizes from dilute alcohol in long, yellow needles. M. P. 174°C . Gives in alcoholic or aqueous solution a cherry-red color with FeCl_3 . Einhorn and Pfyl²⁵ obtained an acid melting at 175°C . by nitrating *p*-cresotinic acid.

(10) *Replacement by OH* .—Fusing in presence of $\text{Pb}(\text{OH})_2$ and following directions as described under *o*-cresotinic acid, an acid crystallizing in needles and melting at 204°C . was isolated. The alcoholic solution of this acid gives a blue color with FeCl_3 which turns green on further addition of FeCl_3 . The analysis for carbon and hydrogen yielded:

Found: C, 57.08 percent
H, 4.85 percent

Theoretical: C, 57.14 percent
 $\text{C}_8\text{H}_6\text{O}_4$: H, 4.79 percent

This corresponds to a dioxytoluic acid, described in Beilstein²⁶ as 4,5-dioxy-1-methyl-3-carboxylbenzene, Schering.²⁷

Using Ag_2O in place of $\text{Pb}(\text{OH})_2$, two substances were isolated, one melting at 152°C . and the other at 300°C . The acid melting at 152°C . gives a violet color with FeCl_3 . *p*-Cresotinic acid melts at 151°C . The acid melting at 300°C . gives a red color in alcoholic solution with FeCl_3 . The analysis of carbon and hydrogen gave:

Found: C, 53.2 percent
H, 4.04 percent

Theoretical: C, 52.73 percent
 $\text{C}_8\text{H}_6\text{O}_5$: H, 3.32 percent

4-Oxyisophthalic acid melts at 304°C . to 306°C .²⁸

SUMMARY.

The iodine derivatives obtained by the method described are: 5-iodo-2-oxy-1-methyl-3-carboxylbenzene, M. P. 237°C . from *o*-cresotinic acid, and from *p*-cresotinic acid 5-iodo-4-oxy-1-methyl-3-carboxylbenzene; M. P. 210°C . This is proved by the conversion of the iodine into nitro and hydroxyl derivatives.

The nitro derivative made by Einhorn and Pfyl²⁹ by direct nitration of *p*-cresotinic acid is 5-nitro-4-oxy-1-methyl-3-carboxylbenzene.

The presence of Ag_2O in alkali fusions causes oxidation of side chains and has the tendency to prevent the replacement of the iodine by the hydroxyl group, the iodine being largely replaced by hydrogen.

The ethyl ester of 5-iodo-2-oxy-1-methyl-3-carboxylbenzene melts at 78°C . and the ethyl ester of 5-iodo-4-oxy-1-methyl-3-carboxylbenzene melts at 94°C .

²⁵ *Loc. cit.*

²⁶ II*, 1031.

²⁷ D. R. P. 81298.

²⁸ Beilstein II, 1936; *Ost. Jp. Ch.*, XIV, 103.

²⁹ *Loc. cit.*

SECTION ON PRACTICAL PHARMACY AND DISPENSING, AMERICAN PHARMACEUTICAL ASSOCIATION

THE PHARMACOPOEIA AND NATIONAL FORMULARY REVISIONS.*

BY MRS. ST. CLAIRE RANSFORD GAY.

With the distribution of the first copies of the new United States Pharmacopoeia and National Formulary must come a sigh of relief from those who have worked so long and so hard on the revision of these books.

That there is a decided improvement in the books can not be denied and perhaps one of the points most noticeable in this respect, is the prescribed allowance for variation in strength, in certain preparations through which, even if the preparation does assay less than the official strength, it is still acceptable as long as it comes within the prescribed deviation. This is a wise and just decision and was made no doubt to give the pharmacist the same opportunity to escape punishment, as is enjoyed by the manufacturing chemist, who through the kindness of the chemical rubric may market a product, not perfect (but which, with a little more expense, might have been made so), yet in spite of the variation it is immune from the law. It was time for this change and its value is appreciable.

Another point which is impressive is the great decision in the wording of the tests. This is one of the most important parts of the book, and should not allow any indecision on the part of the chemist applying any of them. The book thus becomes a standard and may be considered an authority instead of being discarded as has been frequently done, when any delicate work was being carried on.

The question of deletions and additions will be, of course, always a matter of individual opinion, and no doubt this, as well as the controversy over the word cubic centimeter, helps to delay the publication of the book.

It is not probable, though, that any of the omissions made by the committee will seriously affect the doctor, or the pharmacist, and if your pet preparation has been discarded, and another one substituted for it, the cheering thought comes in the fact that this is the day of the "five-drug" doctor, and you can easily make him see the folly of prescribing something which, not being official, is liable to be different everywhere it is bought. Among the commendable additions are the instructions on sterilization. These are concise enough to form a part of the every-day régime of even the department drug store, but, no doubt, simple as they are, will be discarded by many, except upon the visit of the inspector.

Transferring U. S. P. preparations to the N. F. makes no material difference, as they are still official, and, outside of the ordinary confusion experienced in such cases, will in no way disturb anyone. It is only reasonable to suppose, however, that, as it has taken the savants six years to make the book, that the pharmacist will be given a reasonable length of time, in which to become acquainted with all of the many wonderful changes, improvements and additions that have become official, before being punished for his ignorance. Perhaps the thing that has made this book famous, is the time that has been consumed in its revision, and while it seems ungrateful to touch on this point, after all the gratuitous labor expended

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Atlantic City meeting, 1916.

by the workers, it is just upon this point of gratuity, that a word should be said, and for which a reward should be made to those who have sacrificed time and care to the compilation of the books.

Therefore the subject resolves itself to a question of economics. Is the United States Pharmacopoeia of a commercial as well as scientific value to the United States Government? Undoubtedly yes, then as with everything else that the government considers of value, it should be paid for by the government, in proportion to its intrinsic value, and the men that give their time and brain-work to the making of these books, should be paid by the government, a salary that would permit them to devote all of their time to the work in hand, have a suitable library, an up-to-date laboratory and every facility that would permit the publication of the book in sections, so that the pharmacist, and the government as well, would not be deluged with the entire new book at the end of six years, and then have in hand a mass of material that the wholesaler has discarded as *passé*. It is safe to say that forty percent of the pharmacists do not know all of the changes of the last U. S. P. Why? Simply because their particular work was limited to a few things in the book, but if the U. S. P. had been given to them in sections, there is no doubt that as a news item, either in a journal, or in a government pamphlet, it would have been read by degrees, digested and given a practical tryout at the time of publication, and when the entire book had been published in this way, it would have been no surprise to the pharmacist at large, but simply a compilation of official facts.

To be honest, is it logical for the pharmacist to have to learn in a few months what it took four or six years to compile, and is it really worth while when the book is official in this case only four years after publication? It is not and would not be the case, if ideal, or even reasonable conditions prevailed for its publication. There is sure to be a movement in the matter of government direction, if not ownership, in the near future, and the man nearest at hand in Washington will be the one chosen to direct this work, regardless of his fitness for the position, or the sentiment of the pharmacists at large. Would it not be more dignified, then, to ask that a department of pharmacy be established by the government, the men to be selected from the various pharmaceutical societies, a proper laboratory be given to them, a decent salary be paid to them and make it worth while to give their undivided attention to the compilation of the books? From a commercial point of view, it is entirely rational, and from a scientific point, it would be the culmination of the dreams of every theorist, who wished to make practical those dreams, which under the present conditions must always remain theoretical fancies. And, after all, it is only through the dreams of yesterday that we have the facts of to-day, and if we can only make enough of these theories scientifically accurate, we shall soon restore pharmacy to the rank of a profession and remove the present stigma of pure commercialism.

ABSTRACT OF DISCUSSIONS.

OTTO RAUBENHEIMER: Six years is entirely too long to wait for the Pharmacopoeia; but it was not too long this time, because the work had to be done carefully, to be carried on by correspondence, and to be verified. Every test in the Pharmacopoeia has been verified. Every formula has been proven and the preparations are in possession of the committee.

E. F. COOK: The question of whether we should have a laboratory where this work can be done or whether it should be done through a large committee, and one more experienced is

open for debate and will be discussed for many years until it is finally settled. The point that I wish to bring out is, that although when we met in conference a great deal of work was accomplished, this would have been impossible if there had not been two or three years of previous work done, in which the experimental data were gathered and the preparations tested.

C. H. LAWALL: The conference, after all, is merely the clearing house at which to settle many points; but the conference itself would not help, unless the preliminary work were done. I have had more intimate association with the work on inorganic chemistry than with any other part of the work of the committee. In that connection there was not a test, description, or paragraph of the Pharmacopoeia that was not verified under my supervision, and also by correspondence with other members of the committee. Chemistry is not an infallible science, because it is practiced by persons who are liable to variations in their methods of working. We have tried to expedite the work as much as possible and use every care. The long time elapsing has been largely due to the fact that most of us had to work at times convenient to us, apart from our ordinary vocation.

L. F. KEBLER: There is no question that the conference is the place where a final decision should be reached. I have also thought of the possibility of the government's taking hold of the Pharmacopoeia. I am not so enthusiastic as I was ten years ago, however.

It is very important to sift every point, and scrutinize every word and every mark of punctuation. Another thing—the Pharmacopoeia should be unified. One part should not controvert another. This is a book for court work; and when it comes to a standard to be considered in court, it is absolutely necessary that the standard be inflexible. Some courts will construe it to a nicety, and not make any deviation—even though it works a hardship.

H. V. ARNY: I believe that eventually the actual work of revision will be carried out in the National Capitol. There will be found the real workers and the real laboratory. Behind them we must have the Board of Directors, who will be the experts, the men in the laboratories throughout the country. If the routine work were done in the central bureau, and this Board of Directors had the final decision, I think the problem of revision would be solved.

JOHN M. FRANCIS: There has been a note of pessimism in the words of some of those who have spoken. The Pharmacopoeia is a child of our own, a very considerable number of the auditors present have had something to do with the revision of it; so it is ours, and we feel that we can refer very frankly to its limitations and failures. I do not, however, approve of this note of pessimism that seems to have crept into the discussions. The value and efficiency of work of this kind should be judged, not from the viewpoint of theory, from the standpoint of idealism, but from the practical standpoint of what it accomplishes. To illustrate what I have in mind, I would ask you to compare the last revision with similar pharmacopoeias developed in European countries. We all respect the work of European scientists, but I should like to ask whether there is an educated pharmacist in the United States to-day, who would be willing to substitute the pharmacopoeia of any other civilized country for the one that has been in force here, or for the one that is coming out. Our present Pharmacopoeia will be generally accepted throughout the world as being superior to any other. There is hardly any science or art in the world so complex as that of medicine and pharmacy. There is not a physician in the United States to-day, who can infallibly diagnose all cases of disease. Medicine has a wonderful amount to accomplish before it reaches the stage where it can be pronounced exact or infallible. The same is true of the art of pharmacy. I believe that the Pharmacopoeia should continue to be revised in the future, as it has been revised in the past, because it has gained the hardy admiration of everyone associated with the manufacturing and purveying of medicine. Among manufacturers, I include the man in the corner drug store. I maintain that the Pharmacopoeia is not a work of law. It is not a book of standards by which the pharmacist shall be judged and, perhaps, hailed into court. It is a splendid thing that it should serve this purpose to some extent; but I maintain that it is a book that is mainly intended for the guidance of the pharmacist in the manufacture and dispensing of remedies, and not to serve as a legal code.

MRS. GAY: I am sorry that I have been somewhat misunderstood. With regard to verification of the tests, I did not mean to insinuate that the tests as given in the Pharmacopoeia were not verified. That would be absolutely foolish; but some of them are not accurate. Prof. LaWall brought out that fact, and also the point that the revisers could not be expected to give their time if it encroached on their daily work. Now the government is making use of the brains

of the country, and why does it not help to pay for the use of these brains? You would not expect to give your time as a teacher, or as a maker of chemical tests, for nothing; and I do not see why these men should not be paid a salary by the government. If the salary is adequate, they can give their undivided time and attention to this work.

SUGGESTION FOR THE TENTH REVISION OF THE U. S. P.*

BY F. B. KILMER.

The following suggestion as to method of securing a coöperative revision of the next revision of the Pharmacopoeia is offered:

That the Committee on Revision who acted for the Ninth Decennial Revision shall, in advance of the Pharmacopoeial Convention, meet and assign certain problems connected with the revision of the Pharmacopoeia to such associations and organizations as they can enlist in the work. For example, assay processes, the purity and strength of pharmacopoeial articles, to colleges of pharmacy, the American Pharmaceutical Association, chemical associations, associations of manufacturers, and other like bodies, asking them to coöperate in going over the processes and standards of the Ninth Revision, giving constructive suggestions for the Tenth Revision.

This would at once secure the active coöperation of both organizations and individuals, who, in the natural course of events, await the publication of the Pharmacopoeia, wherein they find difficulties and differences in which they would have been of assistance had they had an opportunity to work on the same, in advance. It would also give an opportunity to have the purity and strength of pharmaceutical articles tested in numerous laboratories, and by this method a vast amount of work would be done in advance of the real revision of the Pharmacopoeia.

It would seem probable that the associations above named, and others which might be listed, together with individual laboratories, would be very glad to take up portions of the Pharmacopoeia which might be assigned to them and give the Pharmacopoeial Committee the benefit of their work.

In the plan outlined it is not intended that the Pharmacopoeial Revision Committee shall assign any part of its work relating to the scope of the Pharmacopoeia and other matters which can only be worked out by the Committee on Revision by itself, and in which they need no aid.

It may be urged that the above method would in a measure be irregular and illegal. This may be met by stating that it is not intended that the work so assigned would be considered as official or binding upon the Committee of Revision, but only handed to them in concrete form for what it is worth. It may also be urged that the present Committee of Revision has not authority to make such assignment. This is true, but there is nothing to prevent it from making such an assignment, which shall be suggestive only, and the Committee of Revision of the Tenth Edition of the Pharmacopoeia will be at full liberty to use all, any part, or none of the results of the work which may be submitted to them.

It is believed that a program of this character, systematically arranged and carried out, will also have a tendency to facilitate and speed up revision work.

It is possible that a similar assignment of problems could be carried out by the Committee of Revision of the National Formulary.

*Read at the meeting of the New Jersey Pharmaceutical Association, 1917.

PAPERS READ BEFORE THE BRANCHES OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

PHARMACOPOEIAS, PHARMACISTS AND PHYSICIANS.*

BY THOMAS E. SATTERTHWAITE, M.D.

In a recent article¹ I said of the Eighth Edition of our Pharmacopoeia that it failed to recognize some drugs that might be prescribed with advantage, such as *adonis vernalis*, much used in Switzerland; *crataegus*, that had been rather a popular remedy in England and Ireland; and *sassy bark*, or *erythrophleum*, which had been recommended by a British pharmaceutical conference, while, I added, it had set its seal of approval on some others which I felt should have no place in any national pharmacopoeia, giving *strophanthus* seeds and the tincture as instances. Since writing the article referred to, the tincture of *strophanthus* has been standardized by the ouabain test, but not satisfactorily, if we accept the recent verdict of a pharmacologist. (L. W. ROWE, JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, 5, 1916, p. 1183.)

In the matter of improper dosage, of which I spoke, I referred in particular to that of the mixed glucoside *strophanthin*, the dose of which, in the Eighth Edition, was put at 1/200 grain. In the Ninth Edition it is put at 1/60 grain. In the former the dose, according to my belief, is too small; in the latter too large; *i. e.*, if the German imported *strophanthin* is to be used.

I also mentioned that up to that time the tincture of *digitalis* had not been acceptably standardized. More than this, I held that the tincture of *digitalis* as then used was of very varying strength; and this statement cannot be refuted. Whether it has now been acceptably standardized I do not know, for I never use it.

But I spoke favorably of some other derivatives of *digitalis*, no one of which was in the Eighth Edition, nor is any one of them in the Ninth Edition. I then referred and now refer to the various mixed glucosides known under the general name *digitalin*, some of which are used extensively both in France and Germany.

I also said that without the publications of the various manufacturing houses I could not practice medicine with any proper degree of success.

The fact is, the profession of medicine makes little use of the Pharmacopoeia. It is the official guide for the pharmacist, and is in the main reliable, so far as it tells of drugs and how their derivatives are to be obtained. But its scope is entirely too limited for the physician. If he wants guides, he finds them in dispensaries, or books on *materia medica*, or the publications of the manufacturing companies. From this point of view we are not as well qualified to discuss the Pharmacopoeia as pharmacists. But it does not represent to us a stable book of reference.

In making the Eighth Edition I counted 121 additions and 243 deletions, all of *materia medica*. Why the citrate of iron, citrate of iron and quinine, citrate of iron and strychnine, brandy, whiskey and wine of *colchicum* seeds have been

* Remarks made in opening a discussion on the new Pharmacopoeia, at the meeting of the New York Branch of the American Pharmaceutical Association, held at the College of Pharmacy, Columbia University, May 14, 1917.

¹ "Drug Therapy in Cardiovascular Diseases," *International Clinics*, Vol. 1, Series 26, 1916.

omitted, I do not know. I will continue to use them, and also possibly the two kinds of spirits that have been ruled out. In respect to the latter, I feel sure some others will do likewise.

I believe, however, it was quite proper to drop apocynum and convallaria; they are negligible drugs. On the other hand, hydrastine hydrochloride, the pituitary gland (posterior lobe), cotarnine hydrochloride, phenolphthalein, theobromine sodio-salicylate, emetine, hydrochloride, the sera, and physiological salt solution are excellent additions.

After a more than fifty years' practical experience as a physician with the United States Pharmacopoeias, and after not a little experience with some of the European Pharmacopoeias, I feel that I have qualified myself to speak of them with a fair degree of definiteness. Actually I have had my prescriptions filled according to the requirements of the locality, in England, France, Germany, Belgium, Austria, Switzerland, and Italy, in the course of my travels.

As the opportunity now offers, and I am speaking both to pharmacists and physicians, I wish to emphasize three points on which we should come to an understanding.

First, we need a closer fellowship. We should coöperate and fraternize. We also need to do team work. Each requires the aid of the other. There are tasks that will not be accomplished successfully, or certainly will encounter unnecessary delays, unless we unite our forces to accomplish them. I am referring now more particularly to the solution of problems that are at the moment subjects of legislative inquiry with a view to proper enactments. The problem of drug addiction is one that positively calls for our coöperation. Physicians can not solve it without the aid of drug manufacturers, and *vice versa*. In fact, in so far as the public is concerned, our county and state medical societies should, through their respective committees, meet at suitable times with accredited pharmaceutical associations, with a view to concerted action in these public matters. We should do so in the interest of the public welfare; otherwise the problems will be imperfectly handled, and the results disastrous.

My second point is that the pharmacist should be well informed technically in all the details of his business; should have the requisite pharmaceutical ability; should observe the ethical rules that should prevail between pharmacists and physicians in respect to the laity; and should be faithful to the best interests of the physician. But we on our part should also display requisite knowledge of drugs and their uses; prepare our prescriptions so that they are legible and have no incompatibles; observe the rules of ethics with pharmacists in respect to the laity; and be faithful to the best interests of the pharmacists. In other words, we should observe the same rules with pharmacists as they with us.

My third point is that we should combine in an effort to establish the ethical or first-class drug stores, as apart from the non-ethical or second-class. Or we might endeavor to establish the European *apotheken*, or pharmacies, as apart from the *drogueries*. It is fully time a positive movement was made in this direction, for two reasons: from the pharmacist's position, to sustain the dignity of the profession; from the physician's, to protect his patients from the danger of having his prescriptions improperly filled. We physicians would be greatly benefited by a plain line of distinction between the *pharmacie* and *droguerie*, such as is main-

tained in most of the countries of Europe. Let it not be inferred that I am decrying the *droguerie*. I am not. Each should have its distinct and legitimate sphere, separate from the other, each useful to the practitioner of medicine in any of its branches, and each a dignified undertaking when under the right sort of management.

DIAGNOSTICAL REAGENTS AND CLINICAL TESTS.*

BY JACOB DINER.

In the Preface to the Ninth Revision of the U. S. P. (p. 39) we find the following:

Diagnostical Reagents.—"In recent years diagnosis through the use of Chemical Reagents and Clinical Tests with or without the use of the microscope has become an important factor in determining the presence or nature of disease and in this Pharmacopoeia a chapter on Diagnostical Reagents and Tests has been appended."

Having in mind the thorough manner with which the revision of the Ninth Edition was carried out and the relative absence of error and the careful selection of all other tests applicable to U. S. P. matter, one is struck by the apparent indifference with which this particular chapter of Diagnostical Reagents has been treated.

I am basing my criticisms chiefly on the fact that some antiquated reagents and tests have been incorporated while others, more up-to-date and more satisfactory from the point of view of the laboratory worker, have been omitted.

For Blood Reaction.—The formula prescribes a 2 percent solution of guaiac in dehydrated alcohol to make 100 units. Anyone who has worked with this reagent knows that it deteriorates very rapidly and becomes useless. Nor is there any particular reason why dehydrated alcohol should be used. If one were directed to shake a piece of guaiac in U. S. P. Alcohol until a pinkish solution is obtained and to use it while fresh, positive results will be obtained in every case where blood is present.

For Diazo Reaction.—No attention is called to the fact that the Sodium Nitrite Solution will be converted into a Nitrate Solution on standing and will then give negative results in positive cases. This solution should be freshly prepared when needed, or when kept in well-stoppered bottles, removed from light, may be of service for about a month. I believe that instruction on methods of preservation in this and many other reagents would not be out of place and would materially add to the value of this chapter.

For Sugar Reactions.—The failure to mention Benedict's Solutions, both the qualitative and the quantitative, seems to me a serious omission. The former (qualitative) has all the advantages of Fehling's solution in addition to having better keeping qualities and doing away with the necessity of having two solutions, which may be incorrectly mixed (failure to add enough alkali). The quantitative solution of Benedict is equally efficient and affords a better end-point reaction.

Gastric Contents.—In view of the scarcity of potassium salts it seems to me

* Read before New York Branch, A. Ph. A., May 14, 1917.

that $\frac{N}{10}$ NaOH should at least have been included if not primarily recommended for the purpose of titration for acidity.

Alizarin Solution is used as indicator for determining all but the combined HCl, and should be included in the list.

Stains.—Gram's stain, as described in the list, is very unstable and has to be made fresh at least every week, if not oftener. The adoption of the Nicolle's modification of this stain would materially aid the laboratory man, inasmuch as it is easily made and almost indestructible as far as time and exposure are concerned.

As decolorizing agents may be included:

Three percent in Alcohol for the Acid-fast stains and Acetone (1), Alcohol (3) for the Gram stain.

Why dehydrated alcohol is used in the preparation of Gram's stain as outlined on page 624 is a mystery to me. Inasmuch as this stain is supposed to be made by shaking the aniline with water, filtering the saturated aqueous aniline solution and then pouring this into a solution of dehydrated alcohol and water it appears that a corresponding amount of Alcohol U. S. P. could be used in place of the dehydrated alcohol.

Counter Stain.—Dilution of 1 : 4 of carbol fuchsin is recommended for that purpose. From practical experience I have found a dilution of 1 : 15 or 1 : 20 much more satisfactory.

In conclusion I wish to compliment the Revision Committee upon having done this pioneer work in an attempt to standardize Diagnostic Reagents and hope that subsequent revisions will eradicate the relatively unimportant errors which have crept into the present chapter on this subject, and that more of the important reagents with detailed information as to mode of preparation and preservation will be incorporated therein.

THE QUALITY OF SOME DRUGS AVAILABLE ON THE MARKET AND PURCHASED ON PRESCRIPTION, WITH METHODS OF ANALYSIS.*

BY L. F. KEBLER with the collaboration of W. O. EMERY, E. C. MERRILL, A. G. MURRAY, E. K. NELSON, S. PALKIN, B. H. ST. JOHN, G. C. SPENCER AND C. D. WRIGHT.

During the year 1912, a goodly number of samples of tincture of iodine were purchased in the open market and examined. The results¹ showed great variation from the standard. A review of the published records shows that the findings of the state officials were equally unfavorable not only for this drug but many others. Tincture of iodine is a comparatively simple drug to prepare and the element of complexity is therefore eliminated. It is held by some that tincture of iodine is a relatively unimportant drug and should therefore not form the basis of an investigation. It should be remembered that tincture of iodine has a fairly good demand, is quite frequently manufactured and is therefore relatively fresh, and on the whole is believed to serve as a good indicator of the care exercised by

* Presented in abstract before the Washington City Branch, A. Ph. A.

¹ J. A. Ph. A., 2, 514, 1913; J. Ind. Eng. Chem., 5, 484, 1913.

the druggist in the manufacture of his commodities. In fact, it has been observed that if carelessness exists in the manufacture of one product, it is likely to find a place in the manufacture of other commodities. It would therefore appear that whatever the underlying cause or causes may be they obtain quite generally throughout the United States.

Some time after the results on tincture of iodine referred to above were published, samples of various drugs were procured from time to time. The samples included Aromatic Spirit of Ammonia, Camphor Liniment, Lime Water, Paregoric, Soap Liniment, Spirit of Camphor, Spirit of Nitrous Ether, Tincture of Iodine and Compounded Prescriptions. The results of the investigation follow.

The work for each product examined is grouped under three headings, *viz.*, Methods of Analysis, Summary of Analysis and Comments. The methods of analysis given are either new, improvements on existing processes, or old methods tried out. In some cases it was not deemed necessary to give the method.

AROMATIC SPIRIT OF AMMONIA.

METHODS OF ANALYSIS.

*Ammonium Carbonate.*²—Introduce a suitable quantity of the sample to be examined into a burette, and guarding against loss, measure off accurately 10 mils into a 200 mil Erlenmeyer flask, containing about 50 mils of water; add an excess of $\frac{N}{2}$ sulphuric acid, boil until the carbon dioxide is expelled and the greater part of the essential oils are volatilized; cool, titrate the excess of acid with $\frac{N}{2}$ sodium hydroxide solution, using methyl red as indicator. Let (*a*) represent the number of mils of acid neutralized by the sample.

Measure off 10 mils of the sample into a 200 mil volumetric flask, containing about 100 mils of water, add 20 mils of barium chloride solution, approximately normal (10 percent), dilute to the mark with water, agitate 6 or 8 times during the next six hours and allow it to stand for 18 additional hours; filter, collecting the filtrate in an accurately graduated cylinder, guarding against loss of ammonia by evaporation. Note the volume of the filtrate, titrate with $\frac{N}{2}$ hydrochloric acid, using methyl red as indicator. From these results calculate the amount of $\frac{N}{2}$ acid necessary to neutralize the entire 200 mils (the original volume). Let (*b*) represent the number of mils of $\frac{N}{2}$ hydrochloric acid necessary.

The difference between (*a*) and (*b*) represents the ammonium carbonate. Since the acid carbonate originally present in the ammonium carbonate was neutralized by a portion of the ammonia water added, it is evident that (*b*) represents only the excess of ammonia water and the difference between (*a*) and (*b*) is the amount of acid sufficient to neutralize both the ammonium carbonate originally used and the ammonia water neutralized by the bicarbonate. The acid equivalent to the original carbonate is therefore three-fourths of the difference between (*a*) and (*b*).³ One mil of $\frac{N}{2}$ acid is equivalent to 26.19 Mg. ammonium carbonate. If the difference between (*a*) and (*b*) is multiplied by $\frac{3}{4}$ of 26.19 (equal to 19.64) the result is the number of Mg. of ammonium carbonate in 10 mils of the sample.

Check, if desired. The precipitated barium carbonate may be washed and either titrated with a standard acid solution or dried, gently ignited at a dull red heat and weighed. From the results obtained the amount of ammonium carbonate can readily be calculated.

² Unless otherwise indicated the term Ammonium Carbonate means the U. S. P. product. This work was all done previous to the issuing of the 9th Decennial Revision of the U. S. P. and the 8th Rev. therefore obtains unless otherwise noted.

³ For details see comments on this article.

Ammonia Water.—To (b) add one-fourth the difference between (a) and (b). The sum is the number of mils of $\frac{N}{2}$ acid equivalent to the ammonia used as ammonia water in 10 mils of the sample. Each mil of $\frac{N}{2}$ acid is equivalent to 0.089 mil ammonia water.

Example: 10 mils of the sample of aromatic spirit of ammonia required 31.2 mils (a) of $\frac{N}{2}$ acid for neutralization. 184 mils of the filtrate from the barium carbonate precipitate required 13.25 mils of $\frac{N}{2}$ acid for neutralization equivalent to 14.4 (b) mils for the entire 200 mils. $31.2(a) - 14.4(b) = 16.8$. $16.8 \times 19.64 = 330.0$ Mg. or 0.33 Gm. of ammonium carbonate per 10 mils of sample, which is equivalent to 33 Gm. of ammonium carbonate per liter. $14.4(b) + 4.2(1/4(a) - (b)) = 18.6$. $18.6 \times 0.089 = 1.50$ mils ammonia water per 10 mils of sample. This is equivalent to 150 mils ammonia water per liter, an excess of 67 percent.

*Alcohol.*⁴

Sodium Sulphate Solution: 30 grammes of U. S. P. sodium sulphate dissolved in enough water to make 45 mils. Introduce 20 mils of the sample into a separatory funnel containing 30 mils of the sodium sulphate solution, render acid by gradually adding sulphuric acid (1 in 1) with careful shaking; finally add 5 mils of the acid in excess. Remove the oils by shaking out twice with an equal volume of petroleum ether. Transfer petroleum ether into a second separatory funnel. Introduce the aqueous portion into a distilling flask. Extract the combined petroleum ether with several successive portions (5 mils) of the sodium sulphate solution; add washings to distillation flask, distil into a 50 mil volumetric flask, make up to exact volume and determine the percentage of alcohol by volume from the specific gravity in the usual manner. All measurements must be made at the same temperature. The percentage of alcohol in the original material is two and one-half times that contained in the distillate.

Summary of Analysis.—Number of samples examined, 52. Eighteen, or 35%, came within a 10% variation of the standard in ammonia content; 21, or 40%, came within 15% and 28, or 54%, came within a variation of 20%. The ammonium carbonate content varied even more.

A goodly number of the samples contain excessive amounts of ammonia water; one as much as 154%. A number of samples were found of proper strength.

Comments.—Ammonium Carbonate consists of a mixture of ammonium acid carbonate and ammonium carbamate.⁵ The product therefore is not well named. Formerly it consisted of one molecule of neutral ammonium carbonate to two molecules of the acid carbonate. The composition seems to vary with the method of manufacture.⁶ All calculations are made on the basis of equimolecular proportions of ammonium hydrogen carbonate and ammonium carbamate.

The object of the addition of free ammonia in the official process is to convert the insoluble bicarbonate into the carbamate. . . .⁷

E. Divers⁸ reports that "By digesting crystals of the salt ("Ammonium Carbonate") with water saturated at a low temperature with ammonia gas for two or more days, at a temperature of 20° to 25°, they dissolve in apparently unlimited quantity, and are changed into ammonium carbamate."

⁴ See comments on alcohol determination.

⁵ U. S. P. Eighth Rev., p. 41; Schmidt, *Pharm. Chem.*, vol. 1, 5th ed., p. 659, 1907; Roscoe and Schorlemmer, "Treatise on Chemistry," vol. 2, p. 385, 1907.

⁶ Schmidt, *Pharm. Chem.*, vol. 1, 5th ed., p. 659, 1907.

⁷ U. S. Disp. p., 1171, 19th ed., 1907.

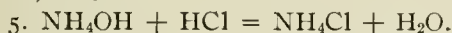
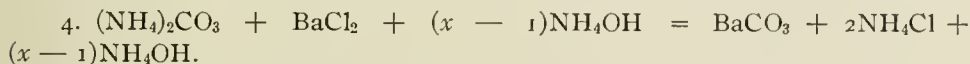
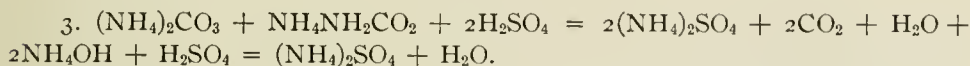
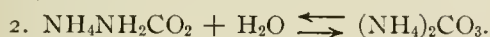
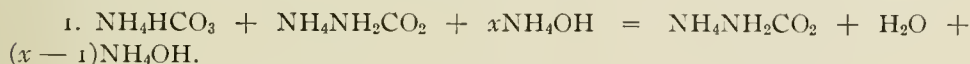
⁸ *J. Chem. Soc.*, 33, 187, 1870.

On mixing ammonia gas with carbon dioxide in the absence of moisture ammonium carbamate is formed, $2\text{NH}_3 + \text{CO}_2 = \text{NH}_2\text{CO.ONH}_4$. Ammonium carbamate is quite stable in the absence of water. When mixed with water it is converted into normal ammonium carbonate but according to Macleod and Haskins⁹ the change proceeds only until a condition of equilibrium is established between the ammonium carbamate and neutral ammonium carbonate as is indicated by the following equations: $\text{NH}_2\text{CO.ONH}_4 + \text{H}_2\text{O} \rightleftharpoons (\text{NH}_4)_2\text{CO}_3$.

The time required for precipitating the barium carbonate may be reduced to one hour by heating. For this purpose 10 mls of the sample, 30 mls of water and 20 mls barium chloride solution are placed in a pressure flask, the flask securely stoppered and introduced into a water bath, maintained at a temperature not less than 75°C .

All determinations should be checked, with sample prepared according to formula and of known composition.¹⁰

The reactions involved in the above methods for estimating the ammonium carbonate and ammonia water are as follows:



The alcohol content was determined only in special samples. The data therefore being incomplete, they are not reported in this article. The methods of analysis are however given.

CAMPHOR LINIMENT.¹¹

METHODS OF ANALYSIS.

Camphor.—(a) Into a flat-bottomed, tared evaporating dish, place about 5 Gm. of the sample accurately weighed, heat at 150°C . until practically constant weight is secured and the odor of camphor is no longer perceptible. The loss in weight represents the amount of camphor contained in the liniment under examination.

(b) Determine the optical rotation in a 200 mm. tube and from the result obtained calculate the amount of camphor present. Example: Optical rotation of sample $+31.4^\circ$ on sugar scale. Optical rotation of standard sample¹² $+58.5^\circ$ on sugar scale.

Summary of Analysis.—Of the 42 samples examined, 17, or 40%, come within a 10% limit. 24, or 57%, come within a 15% limit, and 28, or 67%, come within a 20% variation from the standard. A deviation of 20% from the standard should be ample for an article of this character. Yet on this basis nearly one-third of the samples examined would be defective.

⁹ *J. Biol. Chem.*, 1, 321, 1906.

¹⁰ This procedure should be adopted whenever practicable.

¹¹ The 9th Rev. Dec. U. S. P. recognized "Camphorated Oil" a synonym of camphor liniment which eliminates an old-time controversy.

¹² See comments.

Comments.—Prepare a standard sample of camphor liniment by accurately weighing 20 Gm. of powdered dry camphor into a 200 mil saponification flask, then add exactly 80 Gm. of cottonseed oil, seal or tightly cork the flask, heat on a water bath with occasional shaking until solution results, finally cool the mixture to room temperature. The sample so prepared will read approximately $+58.5^{\circ}$ on the sugar scale at room temperature. This preparation should be used to check all determinations made. The standard should be freshly prepared for each series of determinations. Optical readings of the sample under investigation and the standard sample should be made under the same conditions.

The two methods above outlined give fairly concordant results as the following parallel figures show:

	Polariscope.	Loss by heating.
1 Camphor.....	7.18%	7.38%
2 Camphor.....	13.80%	14.56%
3 Camphor.....	8.5%	8.58%
4 Camphor.....	2.1%	2.0%
5 Camphor.....	9.2%	9.24%
6 Camphor.....	6.9%	7.0%
7 Camphor.....	8.6%	8.65%
8 Camphor.....	14.9%	15.28%
9 Camphor.....	8.7%	8.35%
10 Camphor.....	6.6%	6.74%
11 Camphor.....	26.15%	26.71%
12 Camphor.....	15.4%	16.2%
13 Camphor.....	11.5%	11.5%
14 Camphor.....	12.8%	13.1%

The loss on heating includes any moisture that may be present, so that the figures obtained by this procedure may be a trifle higher than those obtained by the optical method. If the article is turbid it should be filtered before making the determination of camphor.

If the product is made in an open vessel or is unduly heated without guarding against loss by evaporation the content of camphor will be low. The amount of camphor in the sample examined is therefore ascertained from the proportion: $+58.5^{\circ} : +31.4^{\circ} :: 20 : X$. X therefore equals 10.8%, the amount of camphor present in the sample examined.

LIME WATER.

Method of Analysis.—U. S. P. 8th Revision.

Summary of Analysis.—Of the 62 samples examined, 47, or 76%, came within 20% of the standard and 49, or 79%, within 25%. A majority of the defective samples were decidedly below standard and an increase to a 45% variation would show but little improvement. There is no upper limit. A deficiency of 99% does not speak well for any product.

PAREGORIC.

METHODS OF ANALYSIS.

Reagents.—Sodium hydroxide, 10%.

Common salt.

Alkaline salt solution, made by saturating a $2\frac{1}{2}$ to 3% sodium hydroxide solution with a common salt and filtering.

Barium chloride, a saturated solution.

Concentrated hydrochloric acid.

Concentrated ammonia.

Alcohol.

Chloroform, containing 5 to 7% alcohol.

Methyl red (0.2% alcoholic solution).

Morphine.—(a)¹³ Evaporate 200 mls of the sample to a volume of 50 or 60 mls, transfer to a separatory funnel, rinsing the vessel in which the evaporation was made with several small portions of water, adding the rinsings to the separatory funnel. Shake out 3 times with 20 mls of chloroform, collecting the chloroform in another separatory funnel. Wash the combined chloroform with 5 mls of water, withdraw and add it to the main aqueous layer. Discard the chloroform, introduce the aqueous solution into a beaker, rinse the funnel with several small portions of water, adding the rinsings to the beaker. Heat the beaker on the water bath until the chloroform is expelled, then add 20 mls of 10% sodium hydroxide and mix well. Transfer into a 200 ml graduated flask containing 1 Gm. of powdered common salt for every 3 mls of the solution, add 15 mls of water, stopper the flask, and shake gently until the salt is dissolved. Rinse the beaker with several portions of alkaline salt solution adding the rinsings to the graduated flask, and dilute with the same solution to about 175 mls, rotate gently so as to mix without causing excessive frothing. Add 15 mls of saturated solution of barium chloride. Reduce the froth by the addition of a little alcohol and make up to volume with alkaline salt solution, stopper, shake thoroughly, then filter through a large, dry fluted paper. Refilter if filtrate is turbid.

By means of a pipette remove 100 mls of the filtrate corresponding to half the weight of the sample taken and introduce into a separatory funnel No. 1. Add concentrated hydrochloric acid in portions—towards the end not over $\frac{1}{2}$ mil at a time until acid to litmus, finally add 4 mls in excess; add concentrated ammonia in portions—towards the end not over 4 drops at a time—until alkaline, then add 1 mil in excess. It is important that the quantities of acid and ammonia be added with the precision indicated. Add 10 mls of alcohol and shake out 6 times with chloroform, containing 5 to 7% alcohol, using 30, 20, 20, 15, 15 and 15 mls, respectively, filter each successive shake-out through cotton wetted with chloroform, into a separatory funnel No. 2. Discard the liquid in separatory funnel No. 1.

To funnel No. 2 add 15 mls of alkaline salt solution, shake, then withdraw the chloroform layer into a separatory funnel No. 3. To funnel No. 3 add 5 mls of alkaline salt solution, shake, withdraw the chloroform layer into a beaker and add the alkaline salt layer to funnel No. 2. Return the chloroform to funnel No. 3, shake with a fresh portion of 5 mls alkaline salt solution, reject the chloroform layer and keep the alkaline salt layer for later use. Shake out the alkaline salt solution in funnel No. 2 twice with 25 mls of chloroform each time, collecting the chloroform in separatory funnel No. 3. Shake funnel No. 3. Reject the chloroform layer and add the alkaline salt layer to the main alkaline salt solution in funnel No. 2.

To funnel No. 2 add concentrated hydrochloric acid *carefully*, reaching acidity within 2 or 3 drops; then add 1 mil in excess. Add concentrated ammonia *carefully*, reaching alkalinity within 1 or 2 drops; then add 5 drops in excess. Add 3 mls of water and 4 mls of alcohol. Shake out 5 times with chloroform containing 5 to 7% of alcohol, 30, 10, 10, 5 and 5 mls, respectively, filtering each successive shake-out through cotton wetted with chloroform into a beaker.

Evaporate the chloroform on the water bath to dryness. Add 10 mls of neutral alcohol and heat to dissolve. Add 3 to 5 drops of methyl red. Add $\frac{N}{50}$ sulphuric acid until about 2 to 5 mls in excess. At this stage look out for any undissolved specks; heat again if necessary. Evaporate most of the alcohol, cool, then titrate back with $\frac{N}{50}$ or $\frac{N}{100}$ sodium or potassium hydroxide which has been ascertained to be sufficiently free from carbonates to give a sharp end point with methyl red.

¹³ Developed by H. E. Buchbinder based on the work of Kippenberger (*Z. anal. Chem.*, 34, 307, 1895; *Ibid.*, 39, 290, 1900); Warthle (*Chem. Ztg.*, 25, 290, 1901); Puckner (*J. Am. Chem. Soc.*, 23, 470, 1901); and Eaton (*Bull. Bur. Chem.*, 137, 188, 1911); *Ibid.*, 152, 242, 1911.

(b)¹⁴ When not more than 50 to 100 mls of paregoric are available for assay, the above method may be modified by using the centrifuge to separate the emulsion formed when shaking with chloroform.

The sample, to which 2 mls normal H_2SO_4 have been added, is evaporated on the steam bath to a volume of about 10 to 15 mls, then transferred to a separator (which has been tested in the centrifuge and found to show no loss when centrifuged half full of chloroform for five minutes) or to an eight-ounce nursing bottle. Rinse in the last portions of the evaporated residue with two portions of half normal H_2SO_4 , each portion 10 mls. The solution is then saturated with salt and carefully neutralized by adding NH_4OH conc., drop by drop, finally adding 5 drops in excess. Then add 30 mls of a mixture containing 85% by volume chloroform and 15% alcohol by volume, shake and centrifuge till a clear separation is effected, then remove the immiscible solvent—from the milk bottle by means of a pipette—and run it into a large separator.

The operation is repeated with successive portions of 30, 20, 20, and 15 mls, respectively, of the solvent mixture. A portion of the last shake-out should be evaporated to dryness on the steam bath and tested with formaldehyde-sulphuric reagent to insure complete extraction of the morphine. In case the test is positive the shaking-out must be repeated till no reaction is noted on a few mls of the shake-out.

Having completed the chloroform-alcohol shake-out and collected the solvent in a separator, add to the latter 15 mls of a saturated salt solution containing 2½% NaOH and shake. Remove the chloroform alcohol to another separator and shake again with 10 mls of the alkaline salt solution.

Run off the chloroform alcohol into a beaker and transfer the alkaline salt shake-out into the first separator, then pour the chloroform-alcohol back into the second separator and shake again with 10 mls of the alkaline salt solution, and add this shake-out to the others in the first separator. Then wash these combined shake-outs with 5 to 10 mls chloroform. Reject the chloroform.

Exactly neutralize by adding conc. HCl , drop by drop, finally adding 1 mil in excess. Cool under the faucet and shake with 5 to 10 mls chloroform, remove the chloroform to another separator and shake it with 5 mls saturated salt solution to which 3 drops conc. HCl have been added. Discard the chloroform and add the acid salt solution to the sample in the first separator.

Now add conc. NH_4OH till the solution is just alkaline, and then 8 drops in excess. Cool under the faucet and extract immediately with successive portions of 30, 30, 20, 20 and 15 mls, respectively, of chloroform to which 5 to 7% by volume alcohol has been added, testing the final shake-out with formaldehyde-sulphuric reagent for complete extraction. Repeat shaking-out if necessary. The chloroform shake-outs are filtered through paper or a pledget of cotton, wetted with chloroform, into a flask, most of the chloroform distilled off and the remainder rinsed into a small tared beaker, evaporated on the steam bath to dryness and dried at 100°, weighed or dissolved in 3 to 5 mls neutral alcohol and titrated with $\frac{\text{N}}{50}$ acid, using methyl red as indicator.

Alcohol.—Introduce 25 mls of the sample into a distillation flask, dilute with two volumes of water, add about 1 Gm. sodium bicarbonate, mix well; slowly distil about 50 mls into a separatory funnel, saturate the distillate with common salt and shake out twice with about 15 mls of petroleum ether. Separation of the two liquids must be complete. Transfer the hydro-alcoholic salt solution to a suitable distillation flask. Wash the combined petroleum ether extract with successive portions of 10 and 5 mls, respectively, of a saturated salt solution, and add washings to distillation flask. Distil slowly into a 50 ml volumetric flask and make up accurately to 50 mls. All measurements must be made at the same temperature. The alcohol content of the distillate is calculated from the specific gravity in the usual way. On account of dilution the alcohol in distillate is one-half that contained in the original material.

Summary of Analysis.—Ninety-nine samples were examined, of these 72, or 73%, came within a 20% variation and 23, or 23% exceeded a 25% variation.

¹⁴ Elaborated by B. H. St. John.

It should be noted that in all cases the excessive variations are represented by deficiencies, for example, -92 , -82 , -72% , etc.

Comments.—The directions should be followed to the letter and the determination should be carried out as rapidly as is consistent with careful manipulation. On no consideration should the morphine be allowed to remain in the alkaline salt solution for any considerable time, over $1/4$ to $1/2$ hour, as loss of morphine due to oxidation occurs.

It has been found to be imperative to keep the proper ratio of NH_4OH to ammonium salts in the solution to be extracted, hence the specific directions in regard to the addition of acid and ammonia.

It is also imperative in the final shake-out with chloroform to shake immediately after making alkaline, for while freshly precipitated morphine is readily extracted by the solvent used, if allowed to stand it becomes crystalline and its extraction becomes very difficult.

The procedure for estimating the morphine is somewhat involved on account of the small amount and the other ingredients contained therein. Considerable practice is also required to obtain accurate results. Experienced workers, however, obtain fairly concordant results.

The method for estimating alcohol differs in several particulars from the procedure given by Thorpe and Holmes,¹⁵ or as modified by E. Richter¹⁶ or A. Reuss.¹⁷ Experience shows that in many cases a preliminary distillation of the original material before salting out and extracting with petroleum ether facilitates shaking-out and distillation and gives better results.

(To be continued.)

TUBERCULINS.*

BY L. K. DARBAKER.

"Tuberculosis was, without doubt, recognized and described by the early writers of medicine, but at that time it was known only under the general name 'consumption'—a name that to the present day is still in common use. This name was given the disease from the fact that patients dying from it have certain symptoms, such as loss of weight, good appetite, morning cough, night-sweats, and, although in apparent good health, going down slowly and easily to certain death—each sufferer always hopeful to the latest minute of life. Upon opening the bodies of these patients nodules or tubercles were found in the various affected parts; hence this name.

"Tuberculosis is a simple infection, caused by the *Tubercle streptothrix*, and is rarely fatal. The body, in protecting itself, forms a wall around the invading organism; hence the tubercle."

"Consumption is a complex infection in which the various streptococci and staphylococci are associated with the tubercle organism. The streptococci and

¹⁵ *J. Chem. Soc. Trs.*, 83, Pt. I, 314, 1903.

¹⁶ *Pharm. Ztg.*, 59, 430, 1914.

¹⁷ *Pharm. Zentrh.*, 56, 61, 1915.

* Read before Pittsburgh Branch, A. Ph. A.

staphylococci attack and tear down by liquefaction the walled-up tubercles, and this is the material coughed up by the pulmonary consumptive. It is a consuming disease which, unless properly treated in time, always causes death."

In 1843 Klemke and in 1865 Villemain demonstrated the infectiousness of tuberculosis by animal experimentation, these results being later substantiated by Klebs, Chauveau, Baumgarten and Cohnheim. Baumgarten saw the first tubercle organism in sections of tubercular tissue from which the tissue had been dissolved by potassium hydroxide. About the same time, in 1882, Koch, by a special staining method, demonstrated the presence of the tubercle organism in all tubercular lesions, and confirmed the previous experiments in infecting animals. Later he obtained the tubercle organism in pure cultures.

The tubercle organism is an obligate aerobe, in the form of a non-flagellated rod, often slightly curved and exhibiting a number of spherical, oval or elongated clear spaces, which at one time were thought to be spores, but it has since been proven that spore reproduction of this organism is unknown. Many theories have been advanced as to the cause of these spaces, among which are the following: Vacuoles, or a form of degeneration, and a reserve form of nutritious material. Doctor Leteve, an authority on this subject, states, "When the organism shows the spaces there are two theories, first, the organism is sick, or is attacked; this is why we find this condition in the organism in old cultures and in sputum; second, the organism is in full health and grows more rapidly. Personally, I believe it is caused by the breaking down of the organism."

The organism shows many morphological variations under different conditions, and is classed as a streptothrix, although some still place it in the true bacteria class of the schizomycetes, and others, as being between the streptothrix—a *hypomycetes*—and true bacteria. However, it is evident that the organism is of a higher form than that of true bacteria.

The organism contains about 90 percent water, $2\frac{1}{2}$ percent fatty, wax-like coating and $7\frac{1}{2}$ percent protoplasm and cellulose. It is on account of the resistance of this fatty, wax-like coating on the outer wall to the ordinary stains that a special stain containing a mordant, as phenol, must be used, and if the staining process is not hastened by the aid of heat, it requires ten hours or longer for the penetration of the stain into the organism. But after the organism is once stained it resists giving off the stain to such an extent that it will not be decolorized with a 3 percent HCl in alcohol, or a 15 percent H_2SO_4 solution. Organisms having this property are called "acid fast" and include the tubercle organism, *bacillus leprae*, *smegma bacillus*, and others obtained from butter, hay and dung. About forty varieties belonging to this group have been described.

The tubercle organism grows in media containing 2 to 6 percent glycerin at a temperature of 36 to 40° C. The best medium consists of glycerin 5 percent, sodium chloride 5 percent, peptone 2 percent, guinea pig meat broth 1000 mils. The growth appears as a creeping, dry, whitish membrane, and when grown in a liquid medium for some time the whitish membrane sinks to the bottom.

The tubercle organism is resistant to desiccation and in a dry state will live for about three months, but if exposed to sunlight it will be destroyed in a few hours, and in diffused daylight in five to seven days. It is also destroyed in 24 hours in a mixture of equal parts of sputum and 5 percent phenol, or by one hour's

exposure to Röntgen rays. The organism is destroyed by moist heat at 55° C. in five hours, at 60° C. in one hour and at 95° C. in ten minutes, but if the organism is imbedded in sputum, it requires at least five minutes' boiling before destruction occurs. In some cases when the organism is grown on potato, putrid sputum, etc., or passed through a number of cultures, its virulence is decreased; in other cases the virulence is not altered.

Koch claimed that the bovine type organism could not infect man, and this was the general belief previous to 1901, when Smith and others conclusively proved that, although the tuberculosis of cattle and that of man were caused by different organisms, yet the type of one could and would infect the other. It is now known that practically all the human tuberculosis of the abdominal cavity, intestines, bones, skin, and glands is an infection caused by the bovine type organism.

The pulmonary type of infection is the most common. It is caused by the human type organism and is acquired by the inhalation of the organisms in dried sputum. Tuberculosis is not inherited, but as the babe is in constant association with the tuberculous mother, who will throw out in one day as many as 7,200,000,000 organisms, the organisms being thrown by the coughing five or more feet, the babe having weak lungs readily acquires the disease, the weakened condition of the lungs furnishing a fertile field for the organism growth.

The most susceptible age is from one to three years. From the third to the fifteenth year of a child's life the greater part of the day is spent in the open air, but after the fifteenth year it is not in the open air so much and from that age to middle life the disease shows a great increase in the number of cases.

A successful recovery from the disease produces some immunity but not sufficient to prevent a second infection.

In practically all autopsies the tubercles or healed lesions are found, showing that all or nearly all persons have at some time had a tuberculosis infection.

Smith, in the *Journal of the American Medical Association*, January 8, 1916, states, "10 percent of all deaths in children under the age of 15 years are due to tuberculosis. Since 8 percent of the deaths are caused by the bovine type, acquired by drinking milk obtained from tubercular cows, all milk for human consumption should be pasteurized." The tubercle organism may lay dormant and harmless in the body tissues for an indefinite period. Von Behring believed that nearly all cases of tuberculosis had their start in infancy.

Ten years ago the field was almost barren of organizations fighting the great white plague, but to-day there are in the United States 12,000 local tuberculosis organizations, 575 hospitals and sanatoriums, 540 special dispensaries, 1000 dispensary physicians, 4000 nurses, 400 open air schools. Over \$100,000,000 has been spent in fighting the disease.

All animals are prone to tuberculosis. The hog, goat, lion and tiger in their natural elements are the most resistant.

There are many types of organisms causing the disease:

Human type, previously described.

Bovine type, infecting cattle and man. This type differs from the human type by usually being of the pulmonary nodular type, although it may become general (miliary). The nodules grow to a large size and the organisms show signs of branching.

Avian type, common to birds and chickens, appearing as yellowish white nodules in the intestines and liver. The nodules vary in size from that of a pea to the size of a walnut. The growth is moist and mucous-like, while that of the human type is brittle, warty and dry. The organism is club shaped and more easily cultivated than that of the human type; it also grows at a higher temperature, 40 to 50° C. This type is less pathogenic to guinea pigs but more so for rabbits.

Piscum type, the organism causing tuberculosis in fish.

Pseudo types of many varieties have been found in various animals, as mice and sheep, but time does not permit going into details.

Killed cultures of the human organism, when given subcutaneously, may produce necrosis, abscesses and a subnormal temperature. When given to small animals intravenously, it causes a rapid emaciation and death in from a few days to a few weeks. Guinea pigs and rabbits are very susceptible. By beginning with very small doses, the animal may become habituated to the toxin intoxication and eventually withstand large doses. This is also true of the various toxic substances as tuberculins.

The protein and alkaline extracts of the organism cause abscesses when given subcutaneously. The toxin is a complex substance, containing among other things a fever-producing body, also found in the tuberculins, which are toxic substances produced by the organisms. This fever-producing body is the cause of the rise in temperature when tuberculins are injected. It is 100 times as toxic for tubercular animals as for the healthy. There is also present a temperature-reducing body, called "toxalbumin," which is destroyed by heat at 100° C. Another body has been isolated which will cause fatal convulsions when injected into animals. These bodies show their greatest effect when injected into the brain, and this should be the method of standardization of tuberculins.

In 1881, Koch announced an agent to be used for the specific diagnosis of tuberculosis, giving this substance the name of "Tuberculin." This preparation consisted of cultures of the human type organism, grown in a peptone broth containing 5 percent glycerin, for four weeks. At the end of four weeks' growth the cultures were killed by heating at 100° C. for one hour, evaporating this killed fluid culture to 1/10 its original volume in vacuum at a low temperature, removing the bacterial cells by filtration and adding 50 percent glycerin as a preservative. This preparation is known as "Old Tuberculin," or "O. T."

The "Original Tuberculin" differs from the "Old Tuberculin" by not being heated and evaporated and by having 0.5 percent phenol added as a preservative. The active toxic substances may be precipitated out by the addition of 66 percent alcohol.

The next advance in tuberculins was the "T. A." or "Alkaline Tuberculin," which was made by extracting cultures with 10 percent sodium hydroxide solution. Its diagnostic value was said to exceed that of the former tuberculins on account of the longer duration of the reaction. However, in view of its containing undissolved cells, which caused the formation of abscesses at the site of injection, it rapidly fell into disuse.

For the purpose of immunization, Koch, in 1897, prepared a fluid, which contained all the organism constituents and at the same time was readily absorbed with but little abscess formation. Dried masses of the organism, filtered from the

cultures, were ground in an agate mortar and after being suspended in distilled water, were centrifuged. The emulsion consisted of two layers; the upper opalescent, whitish liquid was designated as "Tuberculin Obers" or "T. O." After removing this fluid, which contained the water-soluble constituents, the residue containing the water-insoluble constituents was dried, ground in mortars, suspended in water and centrifuged; this process being repeated until no sediment remained. It was then preserved with 20 percent glycerin. This preparation was called "Tuberculin Rest" or "Tuberculin Residue" or "T. R." and consisted of an emulsion containing the minute fragments of the organism cells, which were readily absorbed and caused few abscesses. It has also been given the name "Koch's New Tuberculin."

Koch later devised another preparation for the active immunization, and also for performing the agglutination tests. This preparation consisted of the dried and ground organisms emulsified with 20 percent glycerin and water, and was designated as "neutuberculin" or "Bazillen Emulsion" or "B. E."

A short time later Denny's "Bouillon Filtrate" or "B. F." was produced. This was composed of the unheated filtrate from a broth culture, filtered first through paper and then through porcelain, and contained all the soluble products of the organism as it grows in a broth medium.

Many analogous preparations have been made by the various investigators, among which the most important are: "Tuberculocidin" of Klebs; Tuberculins of Schweinitz and Dorset; those of the Dennys; "Tubercle Toxins" of Maragliano, in which the antitoxic sera were used; the "Oxytuberculin" of Herschfelder; the "T. D." and the "T. D. R." of von Behring; "Tuberculo-plasm" of Büchner, and many others.

The true toxin of the organism has been claimed to have been obtained by Marmoreth, by growing the young virulent cultures on a very complicated medium, and he denies that the tuberculin represents the true organism toxin.

"Bovine Tuberculin" is manufactured from the tubercle organisms of the bovine type and is claimed by some to be of equal and even of superior value to that made from the human type, and also that it will cause less reaction.

"Sensitized Tuberculin" or "Sero-Tuberculin" consists of a Bazillen Emulsion sensitized with anti-tuberculin horse serum—that is, the virulent cultures are mixed with the immune serum obtained from the horse which has been immunized (??) against the organism. The cultures are permitted to stand in the immune serum for 24 hours, then the organisms are washed free from the serum and repeatedly centrifuged with saline solution, mixed with physiological saline solution, standardized, killed by sterilization with heat and a small amount of preservative added. It is claimed that his preparation overcomes the infiltrations at the site of injection.

Standardization.—Tuberculin can not be accurately standardized. On account of the great susceptibility of tuberculous animals to tuberculin, the standardization is estimated on the quantity required to kill such animals. From 0.5 to 1 mil of tuberculin when injected into a healthy guinea pig will cause no local or general reaction, but if 0.1 to 0.15 mil be injected into a tubercular pig, death results in from 24 to 48 hours. Lingelsheim recommends intracerebral injections into healthy pigs. On account of the extreme toxicity of tuberculin when in-

jected into the central nervous system, this method requires only 1/180 as much tuberculin to cause death as the subcutaneous or intraperitoneal injections.

Behring bases the value of tuberculins on their toxicity for healthy pigs and expressed 1 mil (1000 M.) or 1 gramme of the toxin as fatal for each 1000 grammes of pig tissue; his "T. D." having a value of 1,250 M. and the "T. D. R." of 12,500 M.

The most reliable method is that of the Frankfort Royal Institute of Experimental Therapy, which is: Two series of pigs are injected with pure cultures of the tubercle organism and then are injected with decreasing doses of tuberculin. In one series a standard preparation of tuberculin is used, in the other series the tuberculin to be tested is injected. If the minimum fatal dose of the sample is the same as the standard, it is of official strength, but if stronger, dilutions are made, if weaker it is concentrated by evaporation.

Koch's "T. R." represents 2 milligrammes of solids to the mil; the "B. E." 5 milligrammes of solids to the mil. Many American manufacturers use a preparation of which one mil represents one milligramme.

All tuberculin injections are dangerous and the writer has heard several physicians state that "undoubtedly they had helped many patients to the great beyond, by the administration of tuberculins."

For diagnostic purposes the following technic is pursued: First, being assured that the patient has no continuous fever by noting the temperature every two hours for several days, 1 milligramme of tuberculin is injected subcutaneously; for very young or very weak patients only 0.05 to 0.1 milligramme is used. Many authorities never use more than 0.1 milligramme in any case as the initial dose. If no rise in temperature is produced by this amount, in the course of a few days a second injection of a slightly larger amount is given; usually an interval of three days elapsing between doses. Koch used as much as 10 milligrammes before concluding that the reaction was negative. Lowenstein recommends that the cumulative action of three to four very small doses at intervals of three days is of more value, and this view is now generally accepted.

Many theories have been advanced as to the cause of the reactions but as yet none have been accepted. In view of Naegeli's finding that 97 percent of autopsies yield tuberculosis lesions, active or healed, the value of tuberculin reactions would seem to be relative only. It is thought by some that tuberculin produces an inflammatory reaction around the tuberculous areas, which may cause the dissemination of the organisms, but Trudeau, Baldwin and Kinghorn in animal experimentation found such was not the case.

The "Cutaneous or von Pirquet Reaction" depends on the increased capacity of the skin in tuberculous patients to react to tuberculin. The ventral surface of the forearm is cleansed with ether or soap and water, two drops of tuberculin are placed on the cleansed area at points about 10 cm. apart. The skin beneath the tuberculin is then scarified as for ordinary smallpox vaccination and several strands of cotton are placed across this area to prevent the spreading of the tuberculin. A third scarification is made about equi-distant from the others but no tuberculin used; this is for the control.

The Traumatic reaction occurs in a few minutes. All the points of scarification show a small papule surrounded by a soft red areole, which disappears in a few hours. A slightly raised red spot about the size of a pin head remains; this

becomes covered with a crust, which is succeeded by a pigmentation and a gradual return to normal in a week or so. Negative reactions show the same conditions as the control site; the swelling lasting about twenty-four hours only and the areola being less than 5 mm. in size. The positive reaction has an incubation period lasting from three to twenty-four hours, usually less than twenty-four hours. Those developing later than twenty-four hours, von Pirquet calls "Torpid Reactions." Such reactions occur more frequently in children and clinically unsuspected cases.

The development of the inflammatory reaction begins usually with a slightly raised areola, reddening, spreading from the point of scarification and increasing rapidly in diameter and height. The papule diameter varies, averaging 1 Cm. Small vesicles sometimes form on the papule. The color differs from the normal skin by being a deep red. Very pale papules may develop in cases of fatal tuberculosis, and when this occurs the reaction is designated as "Cachectic Reaction."

The maximum development is reached usually in forty-eight hours after which time the swelling is reduced, the red color changing to violet, then to a yellow and finally becoming brown. The swelling appears in five to eight days and the pigmentation in a few weeks. Observations are best made forty-eight hours after vaccination. Usually in eight to fourteen hours a progressive rise in temperature of 2 to 5° is noted; receding after two to six hours duration.

Sometimes when a negative reaction is obtained, a second injection produces a positive reaction, and if this occurs, the site of the original injection reddens.

The reaction is very delicate and since most adults have healed tubercles, the reaction as an indicator of active lesions is of value only in very young children.¹

(To be continued.)

PHARMACOLOGICAL EQUIVALENTS AND THERAPEUTIC UNITS, A PROPOSED REFORM IN PRESCRIBING.

The author proposes a method for prescribing, which is devised to relegate the whole of the responsibility of correct dosage to the pharmacist. It is suggested that the prescriber should not trouble about the doses of the drugs to be given. When prescribing, he should merely indicate a certain number of appropriate doses, leaving the amount to be given in each case entirely to the compounder. It is argued that the former has no time to learn and remember doses; whereas the latter has always his books at hand to which he can refer. To carry out this scheme, the agreed normal dose for twenty-four hours either in weight or volume, for an adult, of any preparation, is designated the "pharmacological equivalent," and represented by the letters, E. P. One-tenth part of this is to be known as the "therapeutic unit," and represented by the figures U. T. Under this scheme a prescription would be written thus: Pyramidon, 5 U. T.; Phenacetin, 3 U. T.; exalgin, 2 U. T. For 5 cachets to be taken in twenty-four hours. Twenty-five such to be sent. When excipients and liquid vehicles are prescribed, these are to be left entirely to the pharmacist, thus: Potassium bromide, sodium bromide, ammonium bromide, of each, 4 U. T.; distilled water, syrup of orange, of each, q. s. Three tablespoonfuls a day. Send sufficient for ten days.—Dr. V. Delarge (*L'Union Pharm.*, 1917, 58, 113; through *Pharmaceutical Journal*).

¹ Ricket's "Infection and Immunity."

CONTRIBUTED AND SELECTED

JUSTICE TO THE PHARMACEUTICAL SERVICE OF THE U. S. ARMY.*

BY J. W. ENGLAND.

In the current issue of the *Journal of the American Medical Association* (June 16, 1917), there appears an editorial upon the subject of "Justice to the Pharmacist." It is of unusual interest and significance. It reads as follows:

JUSTICE TO THE PHARMACIST.

The letter in the correspondence department of this issue from Mr. J. W. England, Secretary of the Council of the American Pharmaceutical Association, calls attention to an anomalous state of affairs. Physicians, dentists and veterinarians are officially recognized by the government as men of special training, whose technical knowledge can be of use to the nation in time of war. Provision is made so that men in these three professions can be enrolled as commissioned officers and their skill thus most efficiently used by the Army. The pharmacist, however—as a pharmacist—is utterly ignored. If he enlists he does so as a private. So far as official recognition of it is concerned, the science and art of pharmacy might not exist for the Army. To-day, as never before, victory in war goes to the nation that most effectively conserves the health of its fighting men. The physician is now of such military importance that the medical profession will be called on to make no inconsiderable sacrifices. It will materially lighten the arduous duties and responsibilities of the physician to have in the Army trained pharmacists who will be able to give intelligent coöperation. But it is imposing too great a strain on the patriotism of those whose special knowledge is obviously a large asset to the Army, to expect them to enlist as privates without any recognition of their national worth. Pharmacists should be given a rank commensurate with their importance, first because it is but simple justice to the pharmacists themselves; secondly, because the usefulness of the medical corps will be greatly augmented and, lastly, and most important, because the efficiency of our Army demands it.

The letter referred to is as follows:

To the Editor:—The one outstanding feature of the present world-wide war, which differentiates it from all previous wars, is the recognition of the importance of the industrial resources of nations. Not only is the war of to-day a contest between military forces, but it is a contest between industrial forces. Every nation involved is mobilizing its industries—using the term in its broadest sense—and stimulating their growth and development to the highest plane of efficiency, realizing that, in the final analysis, victory will go to that nation or those nations which will hold out the longest—industrially, financially, and militarily. It is a war of attrition. Such being the case, it is vital that the United States, having entered into the war, should mobilize its industries—which it is doing with the aid of the Council of National Defense—and do everything possible to strengthen the weak links of its industrial chain.

One of the most important industries of the war is the relief of human suffering and the saving of human life, and this is the special province of the medical profession, which has never failed to discharge its duty in the past and will not fail now. No one can question the loyalty of the American medical profession to the highest ideals of professional conduct or its patriotism.

The weakest link of the army is its system of pharmaceutical service. This is exceedingly unsatisfactory, because it is hopelessly antiquated. We have no pharmaceutical corps, pharmacists being compelled to enlist as privates without any provision for commissioned rank, as in the dental and veterinary corps. France, Germany, Japan and other nations have such corps, in charge of a pharmaceutical expert of high military standing. The head of the Pharmaceutical Corps in Germany is of the rank of colonel; in Japan of the rank of lieutenant-colonel, and in Italy and France of the rank of major-general.

* Read before the Pennsylvania Pharmaceutical Association meeting, 1917.

The present system is detrimental to the efficiency of the army because it fails to recognize the importance of proper and sufficient pharmaceutic service and denies to the sick and wounded the best pharmaceutic service the nation can give. The present system is unfair to pharmacy and pharmacists. Pharmacy is a profession and the graduated pharmacists of to-day have had years of collegiate training and practical experience. To enlist professional men as privates is not only unjust to the men, but it is also unjust to the army, because it denies to the army the possibilities of service which such men could render. We hear a great deal these days about commercialism in modern pharmacy, but there has never been a time when American pharmacists, as a class, were being better trained for professional work than to-day. There are upward of 100 colleges of pharmacy in the country and these are growing less in number—and stronger. The entrance requirements are being raised, the curriculums extended and everything possible is being done to uplift American pharmacy, professionally. One thousand five hundred pharmacists graduate this year and they are loyal to high professional ideals.

The present system is unfair to the medical corps because it denies to that body the assistance and support that a properly trained pharmaceutic corps could give. Pharmacists have been trained not only in pharmacy, but they have also had elementary training in some of the medical sciences, and could be made most useful "medical assistants" in the field, while in the hospitals they could be made purveyors and given charge of the medical supplies, as well as render pharmaceutical and chemical service in the dispensing of drugs and in the chemical and bacteriologic examination of food, water, milk, excrements, etc. In addition they could be developed into useful workers in Roentgen-ray, anesthesia, bandaging and sanitation. The present war is more destructive in injuries and fatalities, both to privates and to physicians, than ever before. Before the war, our army required seven medical officers for each thousand combatants. To-day our army is requiring ten medical men for each thousand, while the British forces have increased their number to nineteen, and it is more than probable that when we get into action we shall have to adopt the British ratio. This means 19,000 physicians for each million of troops or 38,000 for two millions. To-day, there are probably less than 5,000 medical men in commission or in the reserve corps. Hence, it is exceedingly important that the medical forces of the country be mobilized, and a properly trained pharmaceutic corps could be made of great usefulness to the medical corps as "assistants," both in the field and in hospitals.

Approximately there are 150,000 pharmacists in the United States from which an ample supply of skilled pharmacists could be drawn; but the conditions of pharmaceutic service in the army will have to be radically changed before they can do their best work. American pharmacy is a profession, no matter how much it may be tinctured in some directions with commercialism, and American pharmacists in general and the American Pharmaceutical Association in particular have been making serious and earnest endeavors to improve existing conditions.

Like the cry of Macedonia, we ask the great American medical profession to "come over and help us" in the upbuilding of American pharmacy, so that both the profession of medicine and the profession of pharmacy may be bettered. We ask, also, that the medical profession put its seal of approval on the movement to establish a pharmaceutic corps in the army and urge the War Department and the Congress to establish such a corps with proper military standing and responsibilities. American pharmacy is not seeking any special privilege, but it is asking for proper professional recognition in the army service to the end that it may have the opportunity to do its fullest and best work for the sick and the wounded.

JOSEPH W. ENGLAND, Philadelphia.

The first question that naturally arises is: "What is the attitude of the War Department upon the question of the establishment of a pharmaceutical corps in the Army?" because the wishes of the department will be respected. And it must be confessed that the War Department *has been* consistently opposed to any modification of the existing Army establishment along the lines indicated. Its attitude has been that it does not consider the establishment of a commissioned pharmaceutical corps in the Army expedient at the present time, because it does not "appear" to be necessary. In other words, the department is open-minded. It is willing to be shown. Its officials are apparently Illustrious Sons of the Ancient

and Honorable State of Missouri. But they are not like the Scotchman who said that he was always "willing to be convinced, but he would like to see the man who could do it!" The War Department officials are men of the highest character, honest and sincere, facing stupendous problems; and they deserve the sympathy and support of every loyal American citizen; their only fault—if it is a fault—is that they do not understand technical, professional pharmacy and cannot visualize its possibilities in the Army service. They need "vision" and it is up to the pharmaceutical profession to demonstrate to them the desirability and necessity of a commissioned pharmaceutical corps in the Army.

In the first place, it must be admitted that pharmacy as practiced in the Army to-day is very elemental. It is alleged that "canned pharmacy is the order of the day in the Army." By "canned pharmacy" is meant that compressed tablets, or like products, possibly dry and hard, and of uncertain age and solubility, are chiefly used in medical treatment, no attempt being made to individualize the treatment. If this be true, it is obvious, of course, that the treatment cannot compare in comprehensiveness and efficiency with that of private practice and the clinical results must be inferior. Of course, on the firing line, where convenience and portability are most essential, there must be compactness and a very limited range of medicaments, but in the base and general hospitals there should be scientific treatment, with abundant opportunities for the pharmacist, not only in the compounding and dispensing of drugs, but also, in chemical, clinical, biological, bacteriological, sanitation, dietetic, Roentgen-ray, toxicological and other scientific work.

One of the most important lines of work that could be given pharmacists in the Army would be as medical assistants. Pharmacists are skilled technical men, and, as pointed out by the *Journal of the American Medical Association*, they could intelligently cooperate with the medical profession in the Army and materially lighten the arduous duties and responsibilities of physicians. They have an exceptional knowledge of chemistry and by reason of their daily, practical work, have acquired a manipulative skill in the handling of chemicals and other materials that should enable them to become, with a little training, skilled assistants, not only in drug dispensing, but also in the applications of the various clinical tests required by modern medical practice.

Almost equally as important—if not more so—are the possibilities of the development of pharmacists in the field of preventive medicine; that is, as aides or assistants in the exceedingly important work of Army sanitation. Pharmacists have had some training in bacteriology and disinfection, and their knowledge of chemistry and their practicability would enable them to quickly become skilled sanitary workers.

Some conception of the vital importance of sanitation in Army life may be had from a recent statement of Dr. Henry Skinner, President of the American Entomological Society (*Public Ledger*, June 16, 1917), who states that: "During the Civil War, on the Union side, 93,369 soldiers were killed, and 186,216 were the victims of disease. In the Crimean War, 4,602 were killed and 17,580 died from disease. A remarkable example of mortality from disease and low death rate from wounds is shown by the figures from the French expedition to Madagascar in 1894, 29 being killed and 7,000 dying from disease. In the Spanish-American

War of 1898, only 454 Americans were killed and 5,277 died from disease, mostly typhoid fever carried by house flies."

Dr. Skinner states, also, that "so far as we are aware, the Government has done very little to prevent a recurrence of this dreadful sacrifice of life."

The excessive mortality referred to was due, most largely, to pathogenic diseases; and as evidence of the life-saving value of modern sanitation may be cited the remarkable reduction of mortality from disease in the Army of Japan during the Russo-Japanese War.

Can the United States afford to have an Army sanitary service that is inferior to that of Japan?

In sanitary work, large numbers of men are required, more than can be spared from the overburdened medical corps. Why not train pharmacists for sanitary service and reduce the pressure upon medical men. They have had a technical training that peculiarly fits them to excel in such work.

The activities of pharmacists in the Army, if properly developed, could be directed into one or all of three channels, according to individual ability, training and experience; that is, they could serve as surgical aides, as medical aides (including drug dispensing), and as sanitary aides, according to the following scheme:

1. In Field and Evacuation Hospitals: Anesthetization, wound-washing, wound-dressing, wound-drainage, paraffin dressing, drug dispensing, shock treatment and sanitation.

2. In Base Hospitals: Same as 1, but also urinary analysis, primary bacteriologic tests, Roentgen-ray work, more drug dispensing, and dietetic work.

3. In General Hospitals: Same as 2, but also chemical assay and bacteriologic examinations of food, water, milk, body excretions, soil, etc., clinical tests, clinical surgical work (plaster Paris bandaging and other surgical dressings and appliances), toxicology and more drug dispensing.

4. In Convalescent Homes: Same as 3, but more drug dispensing.

5. In Army Pharmacological Laboratories: The testing of drugs, biologics, disinfectants, surgical dressings and chemical and pharmaceutical products of all kinds, purchased for Army use.

To enable pharmacists to act in all these lines of activity in the Army service would require additional training along surgical and medical lines. Army pharmacy training would doubtless be given by colleges of pharmacy, if desired by the Government, and the latter would doubtless be willing, in return, to detail Army physicians, surgeons and sanitarians, to give special instruction.

It is exceedingly gratifying to learn that the American Medical Association has recognized the necessity of lightening the duties and responsibilities of the Army physicians, and the possibilities of service that properly trained pharmacists in the Army can give to physicians; but this coöperation can be made effective only by expending or increasing the duties of the pharmacists in the Army and by giving them a commissioned rank.

I would suggest that the Pennsylvania Pharmaceutical Association endorse the movement for the establishment of a commissioned Pharmaceutical Corps in the Army and appoint a committee with power to coöperate with other pharmaceutical bodies working toward this same end.

PHARMACISTS AND THE WAR.*

BY H. M. WHELPLEY.

Twelve months ago, we met here and expressed privately our opinions of the human slaughter then going on in the old world. Since then, the war cloud has extended until it is now easier to name the countries that are at peace than it is to enumerate the ones engaged in the greatest and gravest of all human conflicts. One year ago, we congratulated ourselves that the United States was not in the struggle. Now, we are preparing to enact the most important part in "making the world safe for Democracy." These are, indeed, momentous days. The entire Western World will likely be a participant in the contest before our next Mo. Ph. A. convention. The "six weeks' war" which started in 1914 may continue far past that number of years. These are thought-provoking times for every citizen. The words "citizen" and "alien" have assumed a new and grave significance. It is not difficult to recognize our duty to our country and to the human race in our determination of "setting the world free." But we are pharmacists by training and occupation. The retailer has long practiced serving the public. How can pharmacists now serve their country? What more have they to offer than physical fitness and eligible age? Will the pharmacists of the United States, as the years of war go on, be found digging trenches "somewhere in Europe," or will they contribute service dependent on pharmaceutical skill and knowledge?

Unfortunately, our own government does not give pharmacists the recognition in a war that they receive in France, Italy, Japan and Germany. But that recognition may come before this long-drawn-out war is over. To-day, the pharmacist has the best opportunity for service in the Navy. He also has a place in the Army and one in the Public Health and Marine Hospital Service. All young men now in pharmacy, and particularly those just entering as apprentices, should make certain of having sufficient preliminary education. They should push their studies in pharmacy at college or home, as the case may be. Those who cannot enlist will find plenty to do without going to war. The cry for drug clerks is already loud and will become more insistent as the drafts follow each other. The Medical Section of the Council of National Defense is pleading with physicians to enlist. We do not hear a government cry for more pharmacists but this country is just approaching participation in the war.

We are equally concerned with problems affecting the pharmacists who remain at home to follow their calling. It is needless to say that they will be affected by all general taxes, food regulations and other conditions imposed on the public at large. The special taxes on their business and high cost of drugs they should be able to pass on to the consumer, to whom they belong. I regret that some retail druggists continue even at this late date to sell drugs at figures based on original cost instead of market value. One druggist disposed of his entire stock of potassium permanganate at less per pound than he can replace the chemical per ounce. Similar cases occur daily in spite of drug price lists and market reviews. Pharmacists are quite as likely to make a success of a drug garden as they are to glut the market from a home truck garden, but that is not saying much. No one should attempt a drug garden before consulting with the U. S. Department of Agriculture,

* Read at the meeting of Missouri Pharmaceutical Association, 1917.

at Washington. In England, the British government reports quite as much success in harvesting wild drugs as in cultivating plants. It must be remembered that England has a much more restricted flora than is the case in the United States. We have a long list of indigenous drugs and climate, latitude, altitude, etc., for the growing of many exotic plants.

Now, to be more personal, I bring home to you the duty we owe the Missouri Pharmaceutical Association, which secured our original pharmacy law of 1879 and for nearly forty years has had a hand in all pharmaceutical progress in Missouri. War or no war, we should continue to develop and expand the organization. Here we can solve practical questions in a practical way.

One form of recognition which our government has recently given pharmacy is to use the laboratories and faculties of certain colleges of pharmacy for testing medical supplies. This is done in lieu of establishing government testing laboratories.

Now, in conclusion, this horrible war is waged to make the world better and mankind secure from molestation. At the same time, let us gain for pharmacy a just position and recognition. We bewail the fact that our government is far behind Japan in using in war the talents of pharmacists. I quite agree with Hugh Craig, when he says, "The pharmacist has been so careless of his position in the social economy as to leave the public ignorant of his deserts."

I feel that we should not be satisfied after the war with a status *quo ante* but now look forward to better pharmacy after the war.

REASONS FOR SOME OF THE CHANGES IN THE FORMULAS OF GALENICALS MADE IN THE NINTH REVISION OF THE UNITED STATES PHARMACOPOEIA.*

BY GEORGE M. BERINGER, PH.M.

At the meeting of the Philadelphia Branch of the American Pharmaceutical Association held in November 1916, the writer presented a paper under the above title. As the program for that meeting was a symposium on the Pharmacopoeia and there was assigned to me the title, "Extracts, Fluidextracts and Tinctures," my communication was primarily restricted to the changes made in these classes of official galenicals. The favorable comments elicited by the publication of that paper appear to indicate that a continuation of the subject to the other galenicals of the pharmacopoeia would be an appropriate topic for presentation at this meeting.

The reasons for some of the changes made in the revision of the Pharmacopoeia are so easily understood as to be classified as "self-apparent," but for other changes it may be difficult to assign a tangible explanation.

The decision whether an article or formula shall be admitted to, retained in, or deleted from the official list of titles is presumed to be based upon the medical practice of the time and the general or extended use of such medicament. The late Professor C. S. N. Hallberg assiduously gathered statistics from all over the United States to determine the facts regarding the use of hundreds of drugs and preparations with the expectation that the statistics so gathered would be available and accepted by the Committee of Revision as the basis for deciding the admission, retention or dismissal of articles on the official list. The decisions of the committee seem to indicate that these data were not given the consideration it had

* Read at the meeting of the New Jersey Pharmaceutical Association, 1917.

been expected they would receive and that the decisions on such matters were largely based on personal practice and preferences. Consequently, it is hard to reconcile as consistent the changes made by the additions and deletions. It is, for example, difficult to explain why *Acidum Camphoricum* was dismissed and *Acidum Phenylcinchonicum* has been admitted, and why *Apocynum* and Fluid-extract of *Apocynum* were deleted and *Aspidospermum* and Fluidextract of *Aspidospermum* have been introduced.

On the basis of American medical practice and use, it is even more difficult to explain the expulsion from the official list of such popular formulas as Cataplasm of Kaolin, Antiseptic Solution, Goulard's Cerate, Compound Resin Cerate, Compound Acetanilid Powder, Mixture of Rhubarb and Soda, Compound Spirit of Ether, Compound Syrup of Hypophosphites, and Ointment of Red Mercuric Oxide. How fortunate it is that we have in the National Formulary a second legal authority and that it has incorporated these formulas and so retained authoritative legal standards for these. It may be that the knowledge that the National Formulary would probably adopt these dismissed formulas may have influenced the decisions of the pharmacopoeia revision committee. Whatever may have been the cause, these actions demonstrate the necessity for the two legal standards and how fortunate it was that the National Formulary was systematically revised. The increased importance thus accorded to the National Formulary now makes imperative that it be permanently maintained on a high scientific basis.

The improvements in the directions for the preparing and the proper storing of galenicals in order to insure permanency and efficiency of the products is in evidence throughout the U. S. P. IX. As examples, chloroform water, creosote water, orange flower water and rose water are directed to be prepared with recently boiled distilled water.

In *Aqua Hamamelidis*, the impractical and inaccurate formula of the U. S. P. VIII has been omitted. The production of this preparation cannot be undertaken by the pharmacist and it can only be carried on as a commercial operation in favorable localities. The Pharmacopoeia has rightly eliminated the process and standardized the product so far as possible and supplied appropriate tests for adulterants.

The readiness with which the public accepts and the drug trade adapts itself to the legal pronouncements of the pharmacopoeia has been shown by the universal acceptance of the official standard for Poison Tablets of Corrosive Sublimate. The prompt disappearance from the drug stores of the formerly extensively used white disk shape of sublimate tablets has minimized the danger of accidental poisoning from this source which was for a time so prolific of fatalities.

The number of Cerates has been reduced from six to three and the formulas for two of those retained are notably improved. The U. S. P. VIII directed 20 percent of white petrolatum to be used in the formula for Cerate. Petrolatum in this mixture of wax and lard did not prove to be satisfactory or yield a uniform smooth product; hence, the return in the formula to white wax and benzoinated lard was decided upon.

In the U. S. P. VIII formula for *Cantharides Cerate*, the powdered cantharides was directed to be macerated "in a warm place for 48 hours with the liquid petrolatum." Liquid petrolatum is not a good solvent for cantharidin and no attempt was made by this formula to liberate the combined cantharidin or to obtain the

maximum effect from the cantharides used. In the improved formula of the ninth revision glacial acetic acid is directed to liberate the cantharidin and likewise to aid in its solution in the turpentine. The formula is very satisfactory and with good cantharides will yield an efficient epispastic.

In Cantharidal Collodion, we note another improved formula based upon our knowledge of cantharides and the proper solvents for its constituents. In the U. S. P. VIII formula for this, the cantharides were directed to be exhausted with chloroform and the extract so obtained mixed with flexible collodion. The resulting product usually gelatinized or precipitated in a short time and became worthless. The extraction with a mixture of acetone and acetic acid now directed yields an active and permanent preparation.

In Flexible Collodion of the Revision, by the use of camphor and castor oil in appropriate proportions, a closely adhering stronger and more flexible film is produced than that yielded by the old formula with larger quantities of Canada turpentine and castor oil and does so at considerable saving in cost.

Elixir Glycyrrhiza is now the official title instead of Elixir Adjuvans, the slight increase in the amount of the fluidextract of glycyrrhiza directed only rounding out the proportion of 1 to 7 of elixir.

In modern pharmaceutical practice, Emplastra do not play a very important role. The preparation of Adhesive Plaster and Belladonna Plasters now used can only be attempted on a large scale and with special machinery; hence, formulas for these are omitted.

Lead Plaster instead of being prepared by decomposing soap by lead acetate, as in the U. S. P. VIII, is now directed to be made by boiling with water equal weights of lead oxide, olive oil and lard. If ingredients of proper quality be used, the resulting product will no doubt be satisfactory.

In Infusion of Digitalis, we note a change of doubtful propriety, namely, the omission of alcohol. The argument used in favor of this change was that the alcohol played no part in the extraction of the drug or the therapeutic activity of this preparation and that it gave a false impression as to the stability so that the infusion probably would not be made and used as fresh as it should be. While it must be acknowledged that the alcohol is not necessary for the making of the infusion, it is nevertheless uncertain if it did not serve a useful purpose in the formula. Infusion of Digitalis is not administered while freshly made and warm and in large doses as are many of the common infusions. The physician usually directs a dose of from one to four fluid drachms¹ several times a day and prescribes sufficient for several days. The 10 percent of alcohol formerly directed was sufficient to preserve the infusion for this limited period and I am not convinced that it did not likewise exert some therapeutic action by stimulating the absorption of the digitalis. Complaint has already been made that the infusion made by the new formula, without the alcohol, very soon spoils. Our experience with the other digitalis galenicals proves that the glucosides of this drug are readily hydrolyzed even in a menstruum of diluted alcohol, and to avoid rapid deterioration in the tincture and fluidextract, the Pharmacopoeia has increased the alcoholic content of these preparations. Yet on theoretical grounds, not substantiated by

¹ It is to be noted that in the U. S. P. VIII the average dose was given as 2 fluid drachms and the U. S. P. IX now states: Average dose 1 fluid drachm.

either practical experiment or therapeutic testing, the alcohol was stricken from the infusion, one of the most important of diuretic and cardiac remedies.

Ammonia Liniment is directed to be made by agitating 1 volume of ammonia water with 3 volumes of sesame oil and this simple procedure yields a perfect preparation. The U. S. P. VIII patriotically endeavored to utilize in this formula an American product, cottonseed oil, and in order to saponify this added oleic acid and alcohol thus presenting a wasteful and ridiculous formula.

In Mucilage of Acacia, the Eighth Revision directed the use of 33 percent of lime water in order to overcome the natural acidity of acacia. The lime water content at times created incompatibility as, for example, when the mucilage of acacia was directed to be used to suspend calomel. The revision rightly omits the lime water and directs that this mucilage should be frequently made and not dispensed if it has deteriorated.

In Oleate of Mercury, the use of alcohol in place of water will shorten the time required and diminish the danger of reduction of the mercury.

The change made in the formula for Soft Soap, cottonseed oil being directed in place of linseed oil has, likewise, been dictated by economic reasons rather than by scientific. The new formula is defective and the product is deficient in that very necessary property of a soap, namely, detergency.

In the Mint Spirits, the respective peppermint or spearmint, used for coloring and clarifying, is first washed with water which removes the brown and yellow colorings as well as much extraneous dirt and the resulting spirit is more uniformly of a bright green color.

The acid content of Syrup of Hydriodic Acid was slightly increased so as to make the official syrup not below the strength claimed for some proprietary syrups.

In Syrup of Calcium Lactophosphate and in Syrup of Hypophosphites, the addition of 50 mils of glycerin to the liter adds materially to the stability of these.

In Syrup of Wild Cherry, we note a return to the method of adding the glycerin to the first portion of the menstruum instead of to the percolate. While this procedure may yield a deeper colored syrup that may be richer in tannin, it is doubted if this should be the proper aim and it is questioned whether the hydrocyanic acid content is not actually diminished.

In the Ointments, a few changes are noteworthy. Such minor changes as those made in Belladonna Ointment and in Diluted Mercurial Ointment are readily understood and will cause little comment. In Diachylon Ointment, white petrolatum is substituted for olive oil which yielded an ointment of too fluid a consistency. Ointment of Phenol is reduced from 3 percent phenol to about 2 percent and ointment is directed as the base instead of white petrolatum. The changes made in this formula may cause some trouble with customers to whom it may be difficult to explain the difference in the appearance of carbolic ointment.

The elimination of all Wines from the Pharmacopoeia was probably due to a misunderstanding of the requirement of the Brussels International Protocol. Physicians will continue to prescribe the Wines of Antimony, Colchicum, Ipecac, etc., and pharmacists will furnish these as heretofore. In the formula for Compound Mixture of Glycyrrhiza, the substitution of the equivalent amount of tartar emetic dissolved in water for the wine of antimony is directed and this was the only change in the official formulas necessitated by the deletion of the class of wines from the Pharmacopoeia.

BOTANICAL NOMENCLATURE OF THE U. S. P. IX.*

BY OLIVER ATKINS FARWELL.

A careful examination of the botanical nomenclature of the new revision of the Pharmacopoeia discloses the fact that the authors did not invariably follow either the "Vienna" code or the "American;" but either one or the other as it suited their convenience, and in some instances neither. In most instances where forms of a species, other than the type, are admitted, the trinomial is used; as *Glycyrrhiza glabra glandulifera*; in many cases, however, the "variety" is used as in *Melaleuca Leucadendron* var. *Cajeputi*. The former typifies the American code, which does not recognize the rank of *variety*—the trinomial being the method of designating a *sub-species*; the latter is characteristic of the Vienna system of nomenclature. The system of considering a variation of a species as a subspecies and designating it by a trinomial (the American Code) should be discontinued, as an application of the rule simply makes authors, who do not follow the code and the older authors of a bygone day, express a classification which they had no intention or thought of conveying.

Apparently the American code has been the guiding star of the nomenclatorial committee, but it has balked when a strict application of the rules would have produced a repeating binomial, one where the generic and specific names are the same, as *Zingiber officinale* for *Zingiber Zingiber*. Geographical specific names are decapitalized, a feature that is greatly to be deprecated. Such names are proper names in just the same manner as are specific names derived from old generic names or from the names of persons and they should not be treated differently. Just so long as English type is used to express a binomial, just so long should the rules governing English grammar and syntax be followed. If decapitalization is desired, the binomial should be expressed in Roman type, *i. e.*, in small capitals. There are a good many exceptions to the rule that the name of a family of plants should end in "aceæ," as *Gramineæ*, *Leguminosæ*. In each instance the ending should be changed to "aceæ" so as not to conflict with the nomenclature of other botanical categories.

The following notes and suggestions may be of service in the preparation of future editions:

Agar.—This article is said to be the dried mucilaginous substance obtained from the *Gracilaria lichenoides* Greville and other algæ of the sea coast of Asia, especially from species of *Gelidium* and of *Gloiopeltis*. It is generally conceded that the agar derived from *Gracilaria lichenoides* is the dried, *unaltered thallus*, and is known to the pharmaceutical and commercial worlds as Ceylon agar. Some species of *Gloiopeltis* yield a glue while others are used as a food. Japanese agar is derived from *Gelidium corneum* (Hudson) Lamour, *G. cartilagineum* Gaillon and perhaps from other species of *Gelidium*. Japanese agar is a gelatinous substance, *gelose*, extracted from the algæ. The commercial agar brought to this country for medicinal purposes comes from Japan and is not an unaltered thallus but an extracted gelatinous substance, and therefore corresponds to the article known as Japanese agar as above described. The definition should be corrected to exclude species of *Gracilaria* and *Gloiopeltis* as sources of origin of agar. The writer of this paper can see no good reason for substituting a class name for this

* Reprinted from *The Druggists' Circular*, April 1917.

alga instead of the family name. "Fam. Gelidiaceæ" should be used instead of "Class Rhodophyceæ."

Amygdala Dulcis, *Oleum Amygdalæ Amaræ*, *Oleum Amygdalæ Expressum*.—The sweet almond is said to be derived from *Prunus Amygdalus dulcis* De Candolle and the bitter almond from *Prunus Amygdalus amara* De Candolle. De Candolle is not the author of the above combinations. He did not name them under *Prunus* but under *Amygdalus* and as varieties, not as subspecies; the citation of De Candolle as the author of the combinations is, therefore, without authority. The better way is to keep *Amygdalus* separate from *Prunus*. The bitter almond would then be derived from *Amygdalus communis* Linné and the Sweet, from *Amygdalus communis* Linné var. *dulcis* (Miller) De Candolle. It is not necessary to use the variety *amara* for the bitter almond as it is but a synonym of the species. However, if they are to be retained under *Prunus*, *P. Amygdalus* Stokes is not the proper name for the species under any code of nomenclature now followed, all of which recognize the law of priority. Hudson, in 1778, published a *Prunus communis* to include *P. domestica* Lin., *P. spinosa* Lin., and *P. insititia* Lin., all of which antedate the species of Hudson; consequently Hudson's *P. communis* is but a synonym that can never be reinstated and therefore cannot bar the legitimate use of the name for another species. According to the laws of priority the proper designation of the almonds under *Prunus* is herewith given.

Prunus Communis (Lin.) Farwell (nov. comb.).

Amygdalus communis Lin. Sp. Pl. 473, 1753.

Amygdalus communis Lin. var. *amara*, D. C. Fl. Fr. IV 486, 1805 and Prod. II, 530, 1825.

Prunus Communis (Lin.) N. Farwell var. *Dulcis* (Mill.) Farwell (nov. comb.).

Amygdalus dulcis Miller Dict. Ed. 8, No. 2, 1768.

Amygdalus communis Lin. var. *dulcis* D. C. ll. cc.

Aspidium.—The oldest post-Linnæan generic name for the male fern is *Filix* (Fuchs) Hill. The proper combination for the species designated are *Filix Filix-mas* (Lin.) Farwell and *Filix marginalis* (Lin.) Farwell.

Aspidosperma.—The specific name *quebracho blanco* is written as two words, the hyphen being omitted; this doubtless is a typographical error; nevertheless, as written, it becomes a trinomial and, under the American Code, indicates that the drug is derived from a subspecies *blanco* of the species *Aspidosperma Quebracho*.

Aurantii Dulcis Cortex, *Oleum Aurantii*.—The peel and oil of the sweet orange are said to be derived from the *Citrus Aurantium Sinensis* Galesio. Just why this name should be attributed to Galesio is a mystery; Linnæus (Sp. Pl. 783, 1753) was the first to use it and he should be quoted as the author. It might be better to consider this as a distinct species under the name *Citrus Sinensis* (Lin.) Osbeck.

Aurantii Amaræ Cortex.—The bitter orange peel is said to be derived from *Citrus Aurantium amara* (Lin.) Why any varietal or subspecific name should be used is a question that has not been explained. The bitter orange (*Citrus vulgaris* Risso, *Citrus Bigaradia* Loisel, and *Citrus Aurantium amara*) is the exact type of the Linnæan *Citrus Aurantium*. No further designation is necessary.

Cannabis.—Cannabis is said to be derived from *Cannabis sativa* Linné or its

variety *Indica* Lamarck. We have American, Mexican, African, Indian, etc., cannabis; but these are geographical or commercial terms to designate the country of origin. Why it should be necessary does not appear, as the species from one country, when properly prepared, is as active as from another. So we have the pharmaceutical term cannabis sativa variety *Indica* (not botanical) to designate the Indian grown drug. To quote Lamarck as the author of a botanical variety, *Indica* is absurd; there has never been, in so far as I have been able to ascertain, a properly described botanical variety under the name of *Indica*. Lamarck described a species, *Cannabis Indica*, which was later reduced to synonymy, this form not being given any recognized rank of any degree.

Cardamomi Semen.—The botanical origin is given as *Elettaria Cardamomum* White et Maton. The correct combination and author citation under this genus is *Elettaria Cardamomum* (Lin.) Maton and is based on the *Amomum Cardamomum* Lin. Sp. Pl. 1, 1753. The authors of the Index, Kewensis and K. Schumann in "Das Pflanzenreich" IV, No. 46, p. 238, cite the Linnæan binomial as *Amomum Cardamon* and apply it to the Java cardamom plant. A reference to the Species Plantarum will show that Linnæus did not use the specific name *Cardamon* but wrote *Cardamom*, which is an abbreviation for *Cardamomum* just as *gran. parad.* on the next page (2) is for *Granum-paradisi*. I have not been able to ascertain who was the first author to use the specific name *Cardamon*, but Linnæus certainly did not use it. The genus *Amomum* was founded by Linnæus in 1736 on the small cardamoms of the shops. The ginger was included but no part of the description was drawn from it. It is therefore very doubtful if the name can rightfully be used for any other plant.

Certain elements of three distinct species entered into the make-up of the Linnæan *Amomum Cardamomum*, but the confusion over these species was not original with Linnæus. His description was taken from his earlier *Flora Zeylanica*, which also is the first reference given after the description in the Species Plantarum. A reference to the *Flora Zeylanica* develops the fact that this species, as well as the genus *Amomum*, as above shown, was founded on the small cardamoms of the shops. The only correct interpretation of the genus *Amomum* would be to retain it for the plant on which it was founded, hence the proper name for our cardamoms is *Amomum Cardamomum* Lin. The genus to which Roscoe in 1806 transferred the name *Amomum* should probably be known as *Meistera* Giseke (1792).

Caryophyllus, Oleum Caryophylli.—The proper authority for "*Eugenia aromatica* (Linné)" is "Baillon" not "O. Kuntze" as given in the Pharmacopœia. Baillon made the combination in his History of Plants, Vol. VI, pp. 311 and 345, 1877, 14 years ahead of O. Kuntze. But this name is not tenable because of an earlier, valid species of the same name, *Eugenia aromatica* Berg. 1854. The proper name under *Eugenia* is *Eugenia caryophyllata* Thunb. The synonym "Jambosa Caryophyllus (Sprengel) Niedenzu" should be enclosed in marks of parenthesis.

Cinnamomum Zeylanicum.—The proper binomial for this product is *Cinnamomum Cinnamomum* (Linné) Karsten.

Eriodictyon.—The correct authority for "*Eriodictyon Californicum* (Hooker and Arnott)" is "Torrey" not "Greene" as given in the Pharmacopœia.

Eucalyptol, Eucalyptus, Oleum Eucalypti.—The specific name "Globulus" should not be capitalized; it is not a proper name.

Feniculum, Oleum Feniculi.—The correct name for the source of these drugs is *Feniculum Feniculum* (Linné) Karsten.

Gelsemium.—The proper authority for the binomial "*Gelsemium sempervirens* (Linné)" is "Persoon" not "Aiton filius," the former having made the combination in 1805, six years ahead of the latter.

Glycyrrhiza.—The designation *Glycyrrhiza glabra* Linné is sufficient to indicate the source for Spanish licorice. The custom of making a species and indefinite entity and then giving varietal name to what may be considered the typical form cannot be too severely censured. Nothing is to be gained by it. ("Waldstein et Kitaibel") should be inserted between "*glandulifera*" and "*Regel et Herder*" in order to make the author citation perfect.

Ipecacuanha.—The source of ipecac is given as *Cephalis Ipecacuanha* (Brotero) A. Richard and *Cephalis acuminata* Karsten. The oldest generic name for the ipecacs is *Ouragoga*, published by Linnæus in 1737 in the first edition of the *Genera Plantarum*, 378, and in Hort. Cliff., 486. Also as a post Linnæan name in December 1774, in a dissertation on *Viola Ipecacuanha* by Daniele Wickman, later appearing in Schreber's edition of the *Amœnitates Academicæ* in 1785, Vol. VIII, 240, 241, 243. In the index of the first edition of the *Genera Plantarum* the name was listed as *Uragoga* and in this form was adopted by Baillon and later by O. Kuntze to include not only the ipecacs (*Cephalis*) but also a number of closely allied genera (*Psychotria*, *Palicourea*, *Mapouria*, etc.) K. Schumann, in Engler and Prantl's *Pflanzenfamilien* used the name for the genus *Cephalis* alone, restoring to generic rank those genera that had been reduced by Baillon and by Kuntze. "*Uragoga*," as spelled by these authors, is not a valid post Linnæan name. *Evea* Aublet 1775 has been taken up recently by Standley for *Cephalis*, but this is later by a fraction of a year than *Ouragoga* and therefore is not tenable. The *Uragoga acuminata* (Benth) OK. is a species of *Psychotria* and does not apply to the Carthagena ipecac. The proper combinations to designate the ipecacs are as herewith given.

Ouragoga Ipecacuanha.—(Brotero) Farwell (nov. comb.).

Callicocca Ipecacuanha.—Brot. Trans. Linn. Soc. VI, 137, pl. 11, 1802.

Ouragoga Acuminata.—Karsten Farwell (nov. comb.).

Cephalis Acuminata.—(Karsten), Deutsche Flora p. 1196, 1880-1883.

Jalap.—The proper botanical designation for this drug is *Exogonium Jalapa* (Nuttall and Coxe) Baillon. Nuttall was the first author to name the jalap of commerce and medicine; he named it *Ipomæa Jalapa* (Lin.) Pursch, Nuttall's name, if the plant is to remain in *Ipomæa*, as some authors maintain, must give way to next oldest which is *Ipomæa Purga* (Wenderoth) Hayne. If maintained as distinct from *Ipomæa*, as most authors contend, Nuttall's earlier name is available and should be adopted.

Limonis Cortex, Oleum Limonis.—The botanical source of the lemon is *Citrus Medica* Lin. var. *Limon* Lin. This is the oldest name and should be adopted in preference to the later one of Hooker filius; *Citrus Limonia* Osbeck, if as a distinct species.

Maltum.—The botanical source is given as *Hordeum sativum* Jessen. This is but a synonym and should give way to the valid name, *Hordeum vulgare* Lin.

Mentha Viridis, *Oleum Menthae Viridis*.—The botanical origin of this drug is said to be *Mentha spicata* Lin. (*M. viridis* Lin.). There seems to be little or no excuse for making *M. viridis* Lin. a synonym of *M. spicata* Lin. or attributing the source of garden spearmint to the latter species. In the *Species Plantarum*, ed. I, Linnæus had *M. spicata* with three named varieties, *viridis*, *longifolia*, and *rotundifolia*. In the second ed., *M. spicata* with the variety *longifolia*, becomes *M. sylvestris* and the varieties *viridis* and *rotundifolia* are elevated to specific rank under their respective names. *M. spicata* Lin. is, therefore, the older and valid name for the plant that has been more commonly known as *M. sylvestris* and the spearmint of cultivation and of pharmacy is *M. viridis*. *M. spicata* should be dropped.

Myrrha.—Myrrh is said to come from one or more species of *Commiphora*. The oldest name and consequently the valid one is *Balsamea*. It should be adopted.

Oleum Cajuputi.—The botanical source of this oil is said to be *Melaleuca Leucadendron* Linné, especially the variety *Cajuputi* Roxburgh and the variety *minor* Smith. Neither Smith nor Roxburgh are the authors of the varieties mentioned; they published their respective names as specific names. The correct author citation will appear in the synonymy to be given below. The oldest post-Linnæan name for this group of plants is *Kajubuti* Adanson Fam. Pl. II, Index, page 530, 1763. On page 84, vol. 2, Adanson has the generic name *Caju puti* as two distinct words, which, of course, is not tenable as a valid generic name; but on page 530 in the Index he has *Kajubuti* with a reference to *Rumph 2 t. 16* and to page 84, where the description is to be found. The proper binomials are as herewith given.

Kajuputi Leucadendron.—(Lin.) Farwell (nov. comb.).

Myrtus Leucadendra.—Lin. Syst. ed. 10, 1056, 1759.

Kajuputi Leucadendron.—(Lin.) Farwell variety *Angustifolia* (Lin. fil.) Farwell (nov. comb.).

Melaleuca Leucadendron Lin. var. *B. angustifolia* Lin. fil. Suppl. Pl., 342, 1781.

Melaleuca viridiflora Sol. in Gärtn. Fruct. 1, 175 t. 35, 1788.

Kajuputi Leucadendron (Lin.) Farwell variety *Minor* (Sm.) Farwell (nov. comb.).

Melaleuca minor Sm. Rees, Cycl. 23, 1797.

Melaleuca Cajuputi Roxburgh Fl. Ind. III, 394, 1832.

Melaleuca Leucadendron Lin. var. *minor* (Sm.) Duthie in Hk. f. Fl. Brit. Ind. II, 465, 1778.

Melaleuca Leucadendron Lin. variety *Cajeputi* (Roxb.) Niedenzu in Engler and Prantl's Pflanzenfamilien III Teil, 7 abt. 95 and 96, 1892.

The species is founded on the *Arbor alba* Rumph. 2, 72, t. 16, and the second variety on the *Arbor alba minor* Rumph. 2, 76, t. 17 fig. 1. Some authors consider the two varieties named above as identical, in which case the first named would be the valid one as it is the oldest. The second variety is the one that produces the greater part of the commercial cajuput oil.

Oleum Chenopodii.—The source is given as *Chenopodium ambrosioides anthelminticum* Linné. The author citation for the variety *anthelminticum* is (Linné) A. Gray. Linnæus is not the author of a subspecies *anthelminticum*.

Oleum Lavandulæ.—The valid designation of the lavender plan. is *Lavandula Spica* Linné, not *L. vera* D. C., which is a later synonym. In any event *L. vera* D. C. is not the name to use; the earliest name, after that of Linnæus', in case his should be discarded for which there is no excuse, is *Lavandula angustifolia*, Miller.

Oleum Pimentæ.—*Pimenta Pimenta* (Linné) Lyons is the valid binomial for the source of this product; not *B. officinalis* Lindley.

Oleum Sassafras, *Sassafras*.—*Sassafras Sassafras* (Linné) Karsten is the proper combination to designate the sassafras.

Oleum Sesami.—The proper binomial to designate the sesame is *Sesamum orientale* Lin.; not *S. Indicum* Lin.

Petroselinum.—*Petroselinum hortense* Hoffman has precedence over *Petroselinum sativum* Hoffman but the valid binomial is *Petroselinum Petroselinum* (Linné) Karsten.

Sparteina Sulphas.—The specific name in *Cytisus scoparius* (Linné) Linké should be decapitalized. It is not an old generic name or a vernacular name, just an adjective.

Taraxacum.—The botanical origin is given as *Taraxacum officinale* Weber. The proper designation under taraxacum is *Taraxacum Taraxacum* (Linné) Karsten. But *Taraxacum* is not the oldest generic name and for that reason is not the valid one. *Leontodon* Lin. was founded in 1737 on the common dandelion, the *Dens Leonis* of the older botanists. As the genus appeared in the first edition of the *Species Plantarum*, it must be accepted for the species on which it was founded, the dandelion, which is *Leontodon Taraxacum* Linné. The genus generally known as *Leontodon* of late years is *Virea* Adanson.

Ulmus.—The source of origin is given as *Ulmus fulva* Mx. "*Ulmus pubescens* Walter" is generally considered to apply to the same species, and being the older name by 15 years should be adopted.

Xanthoxylum.—The proper spelling for this generic name is *Zanthoxylum*. Linnæus used Z for the initial letter, but Miller changed it to X. The original spelling should be restored.

Zingiber.—The source of origin is given as *Zingiber officinale* Roscoe. The proper appellation is *Zingiber Zingiber* (Linné) Karsten.

In order to bring about a uniformity in family nomenclature, each name ending in "aceæ" and the oldest family name being used, the following changes are necessary:

Gramineæ	to Gramineæ	Teruistræmiaceæ	to Camelliaceæ
Palmæ	to Palmaceæ	Guttiferæ	to Hypericaceæ
Fagaceæ	to Castaneaceæ	Punicaceæ	to Granataceæ
Moraceæ	to Lupulaceæ	Umbelliferæ	to Umbellataceæ
Polygonaceæ	to Persicariaceæ	Oleaceæ	to Jasminaceæ
Chenopodiaceæ	to Blitaceæ	Loganiaceæ	to Strychnaceæ
Cruciferæ	to Cruciferaceæ	Hydrophyllaceæ	to Hydroleaceæ
Leguminosæ	to Leguminaceæ	Labiataæ	to Labiataceæ
Euphorbiaceæ	to Tithymalaceæ	Rubiaceæ	to Aparinaceæ
Rhamnaceæ	to Zizyphaceæ	Cucurbitaceæ	to Bryoniaceæ
Sterculiaceæ	to Cacaoaceæ	Compositæ	to Compositaceæ

PHARMACEUTICAL FORMULAS

PROPOSED FOR A. PH. A. RECIPE BOOK.

A complete list of these Proposed Formulas since February 1912 was published in an index in the December 1916 number of the JOURNAL. The Committee will continue its work in monthly instalments in this Department of the JOURNAL. Members of the A. Ph. A. are earnestly requested to send suitable formulas and also criticisms of those published to the Chairman.

Otto Raubenheimer, Brooklyn, N. Y.

No. 565.

PULVIS STRAMONII NITRATUS.

Nitrated Stramonium Powder.

Sir James Sawyer's Asthma Powder.

Modified.

B. P. Cx.

Stramonium Leaves.....	50 Gm.
Potassium Nitrate.....	
Anise, of each.....	25 Gm.
Mix the powdered ingredients.	

Contributed by the Chairman:

No. 566.

PARENOL.

Solid Parenol.

B. P. Cx.

Petrolatum, white or yellow.....	65 Gm.
Wool Fat.....	15 Gm.
Distilled Water, warm, a sufficient quantity,	

To make..... 100 Gm.

Melt the petrolatum and wool fat, pour the mixture into a warm mortar, and add gradually the distilled water.

Parenol is a stable emulsion of soft paraffin, which is absorbed readily by the skin, and causes no irritation. It does not become rancid on keeping, and forms a useful vehicle for the application of various medicaments, for which rapid absorption is desired. Parenol can be made to take up more than its own weight of water, and mixes readily with all fats.

No. 567.

PARENOL LIQUIDUM.

Liquid Parenol.

B. P. Cx.

Liquid Petrolatum.....	70 mls
White Wax.....	5 Gm.
Distilled Water, warm, a sufficient quantity,	

To make..... 100 mls

Melt the white wax in the liquid petrolatum, pour the mixture into a warm mortar, and add gradually the distilled water.

Liquid parenol is a neutral liniment which is readily absorbed by the skin. It possesses properties similar to those of solid parenol, and will be found especially useful in the treatment of skin diseases, for lubricating catheters, or as a vehicle for injections.

No. 568.

PASTA ICHTHYOLIS.

Pasta Ichthamolis.

Ichthyol Paste.

Ammonium Ichthosulphonate Paste.

B. P. Cx.

Ammonium Ichthosulphonate.....	10 Gm.
Gelatin.....	10 Gm.
Glycerin.....	60 Gm.
Distilled Water.....	25 mls

Soak the gelatin in the distilled water until softened; then melt on a water-bath, add the glycerin, and finally the ammonium ichthosulphonate.

Used for application to the skin in acne, psoriasis, and eczema. The jelly is melted by standing in hot water, and applied to the skin with a stiff brush, the paste being afterwards covered with a thin layer of cotton wool.

Ichthyol or Ammonium Ichthosulphonate or Sulpho-ichthyolate or Ichthyol-Ammonium or Ichthamol consist of the ammonium salts, of the sulphonic acids prepared from ichthyol—the oily product of the destructive distillation of a greyish bituminous schist ("oelstein" or stinkstein") found in the Karwendel Mountains, which separate Bavaria from Tyrol, the bulk of the crude oil, or ichthyol, being produced in the vicinity of the village of Seefeld. The schist is composed largely of the remains of fishes and other marine creatures, and yields from 1 to 10 percent of oil, which contains about 2½ percent of sulphur; on treating the oil with sulphuric acid, ichthosulphonic acid is formed, and this, when neutralized with ammonia, yields impure ammonium ichthosulphonate, the substance which is known in commerce under various trivial names.

No. 569.

PASTA ICHTHYOLIS COMPOSITA.

Pasta Ichthamolis Composita.

Compound Ichthyol Paste.

Compound Ichthamol Paste.

Compound Ammonium Ichthosulphonate
Paste.

Ammonium Ichthosulphonate.....	25 Gm.
Phenol.....	2.5 Gm.
Starch, in powder.....	50 Gm.
Distilled Water, warm.....	22.5 mls

Dissolve the ammonium ichthosulphonate and phenol in the warm water, and mix with the starch.

This paste is used in acne rosacea; it is painted on the skin and allowed to dry.

No. 570.

PASTA IODI ET AMYLI.

Iodine and Starch Paste.

Pasta Amyli Iodata.

Idolized Starch Paste.

Tilbury Fox Paste.

Starch, in powder.....	10 Gm.
Glycerin.....	20 mls
Lugol's Solution of Iodine.....	10 mls
Distilled Water, a sufficient quantity,	————

To make..... 100 Gm.

Boil together the starch, glycerin, and distilled water; cool, and add the solution of iodine; add sufficient water to produce 100 Gm. and mix well.

This paste is applied on lint to syphilitic sores and ulcers.

No. 571.

PASTA POTASSAE ET CALCIS.

Potassa and Lime Paste.

Pasta Viennensis.

Vienna Paste.

Potassa with Lime, N. F. IV.

Alcohol, sufficient to make a paste.

This paste was formerly used as a caustic for malignant growths. In place of alcohol, glycerin is sometimes used.

No. 572.

PASTA SODAE ET CALCIS.

Soda and Lime Paste.

Pasta Londinensis.

London Paste.

Soda with Lime, N. F. IV.

Water, sufficient to make a paste.

Said to be a less painful application than Vienna Paste.

Both London and Vienna Pastes should be freshly prepared when needed.

No. 573

PASTA ZINCI ET GELATINI.

Zinc and Gelatin Paste.

Gelatinum Zinci.

Unna's Paste.

Gelatin.....	15 Gm.
Distilled Water.....	35 mls
Zinc Oxide.....	15 Gm.
Glycerin.....	35 Gm.

Soften the gelatin by soaking in the water; then add the glycerin and zinc oxide, previously rubbed together to a smooth paste. Heat the mixture on a water-bath, stirring until the gelatin is dissolved and a product of uniform consistence is obtained. Pour into a flat dish or tray to solidify.

When required for use, this paste is melted on a water-bath, and applied to the skin with a stiff brush; the part may then be covered with cotton wool or lint. It is soothing application for eczema and other irritable conditions of the skin, and is especially valuable in the treatment of varicose ulcers.

See also Glycerogelatinum Zinci, N. F. IV.

No. 574.

PASTA ZINCI ET ICHTHYOLIS.

Zinc and Ichthyol Paste.

Zinc and Ammonium Ichthosulphonate Paste.

Gelatinum Zinci et Ichthyolis.

Zinc Oxide.....	10 Gm.
Ammonium Ichthosulphonate.....	2 Gm.
Gelatin.....	16 Gm.
Glycerin.....	32 Gm.
Distilled Water, a sufficient quantity,	————

To make..... 100 Gm.

Soften the gelatin by soaking in water, then add the glycerin, zinc oxide, and ammonium ichthosulphonate, previously rubbed together to a smooth paste. Heat on a water-bath till the gelatin is dissolved and the product is of uniform consistence. Pour into a flat dish to solidify.

This paste is used for the same purposes as Pasta Zinci et Gelatini.

No. 575.

ACETUM CANTHARIDINI.

Vinegar of Cantharidin.

B. P. Cx.

Cantharidin.....	0.05 Gm.
Glacial Acetic Acid.....	10 mls
Acetic Acid, a sufficient quantity,	————

To make..... 100 mls

Mix the glacial acetic acid with the cantharidin, add 85 mls of acetic acid, dissolve on a water-bath, and add sufficient acetic acid to make, when cold, 100 mls.

Vinegar of cantharidin is recommended for use instead of *Acetum Cantharidis*, as it is of uniform strength.

No. 576.

ACETUM CANTHARIDIS.

Vinegar of Cantharides.

B. P. Cx.

Cantharides, bruised..... 10 Gm.
Glacial Acetic Acid.....
Distilled Water, of each a sufficient quantity,

To make..... 100 mls

Extract the cantharides by maceration and subsequent percolation with glacial acetic acid mixed with an equal volume of distilled water.

Vinegar of cantharides is used generally, in a dilute form, to stimulate the growth of the hair (see *Cantharis*) but it should not be prescribed in ammoniacal hair washes. As the quantity of cantharidin in this preparation is apt to vary, *Actum Cantharidini* has been suggested as an alternative preparation.

No. 577.

ACETUM ODORATUM.

Toilet Vinegar.

B. P. Cx.

Oil of Bergamot..... 0.5 mil
Oil of Cassia..... 0.1 mil
Oil of Clove..... 0.3 mil
Oil of Lavender..... 0.2 mil
Oil of Lemon..... 0.5 mil
Tincture of Tolu..... 1.0 mil
Tincture of Benzoin..... 10 mls
Alcohol..... 50 mls
Glacial Acetic Acid..... 4 mls
Distilled Water, a sufficient quantity,

To make..... 100 mls

Mix the oils and tinctures with the alcohol; then add the acid and water, shake well, and filter.

Toilet Vinegar is used as a deodorant by sprinkling about the sick room; it is mixed with water for washing in the bath or hand-basin; a few drops are inhaled from the handkerchief as a restorative, or applied to the forehead to relieve headache.

No. 578.

CERA ASEPTICA.

Aseptic Wax.

B. P. Cx.

White Beeswax..... 87 Gm.
Almond Oil..... 12 Gm.
Salicylic Acid..... 1 Gm.

Melt the beeswax in the oil and strain through muslin, add the salicylic acid, and heat to 150° on an oil-bath. Keep in sterilized bottles, covered with an aqueous solution (1 in 500) of mercuric chloride.

Aseptic wax is used to arrest haemorrhage from cranial bones by smearing it over the bleeding surface, and for similar surgical purposes.

No. 579.

CERATUM GALENI.

Galen's Cerate.

Cold Cream. Parogen Cold Cream.

B. P. Cx.

White Petrolatum..... 12 Gm.
White Beeswax..... 12 Gm.
Almond Oil..... 50 mls
Borax..... 1 Gm.
Oil of Rose..... 0.10 mil
Rose Water..... 25 mls

Melt the wax in the oil and dissolve the borax in the rose water by the aid of gentle heat. When both solutions are at about the same temperature, add the aqueous liquid gradually to the wax and oil, and stir until the mixture stiffens. Pour into a slightly warmed mortar containing the petrolatum, stirring until mixed. Add sufficient oil of rose to perfume, and stir till cold.

The above formula is especially suitable for toilet use. If a similar preparation be required as a basis for medicaments the borax should be omitted, or preference should be given to the official *Unguentum Aquae Rosae*.

No. 580.

CERATUM PARAFFINI.

Paraffin Cerate.

Petrolatum Cerate.

B. P. Cx.

Beeswax..... 6 Gm.
Petrolatum..... 94 Gm.

Melt together and stir constantly as the mixture cools. Paraffin cerate can be incorporated with half its weight with water.

This cerate may be prepared with the yellow or white varieties of beeswax and petrolatum; if required as a basis of a white ointment the white beeswax and petrolatum should be employed.

No. 581.

CERATUM PLUMBI.

Lead Cerate.

Pearson's Cerate.

B. P. Cx.

Lead Plaster.....	50 Gm.
Yellow Beeswax.....	12.5 Gm.
Almond Oil.....	37.5 Gm.

Melt the beeswax in the oil, strain through muslin, add the lead plaster, heat the mixture until the plaster is melted, and stir until cold.

Lead cerate is a soothing and mildly astringent application in eczema and other irritable conditions of the skin.

No. 582.

CERATUM PLUMBI COMPOSITUM.

Compound Lead Cerate.

B. P. Cx.

Camphor.....	0.5 Gm.
Yellow Beeswax.....	23.5 Gm.
Olive Oil.....	58.5 Gm.
Solution of Lead Subacetate.....	17.5 Gm.

Melt the beeswax in the oil, strain through muslin, then add the camphor and, finally, the solution of lead subacetate, stirring till cold.

Compound lead cerate is useful for application to chilblains and other inflamed surfaces.

Contributed by Ernst Bilhuber, N. Y. City:

ANTHRASOL PREPARATIONS.

Anthrasol is a purified colorless coal tar, freed from pitch, pyridine bases and coloring matter and mixed with juniper tar (oil of cade), to prevent separation of solid constituents and scented with oil of peppermint. It is a thin, mobile, light yellow oil which does not stain either skin or linen. It is miscible with dehydrated alcohol, acetone, fats and oils, but is insoluble in water.

Anthrasol is an antiseptic and parasiticide. Useful in chronic or subacute skin diseases, various forms of eczema, as a hair restorative and for the removal of dandruff. See also N. N. R. for particulars.

No. 583.

ANTHRASOL DUSTING POWDER.

Anthrasol.....	5 Gm.
Zinc Oxide.....	50 Gm.
Talc.....	50 Gm.

Against perspiration of the feet as well as for hyperidrosis in general and chafing of the skin. Used in the German army.

No. 584.

ANTHRASOL HAIR TONIC.

Anthrasol.....	3 mls
Glycerin.....	5 mls
Oil of Neroli.....	5 drops
Tincture Soft Soap.....	30 mls
Alcohol, a sufficient quantity,	_____

To make..... 150 mls

Very useful in seborrhea capitis and for the quick removal of dandruff.

EURESOL PREPARATIONS.

Euresol is Resorcinol Monacetate or Resorcinyol Acetate $\text{CH}_3\text{COO}(\text{C}_6\text{H}_4\text{OH})$ or the acetic acid ester of resorcinol.

It is a thick, honey yellow, oily liquid, B. Pt. 283°C . and soluble in alcohol and acetone. Its action is similar to that of resorcinol, but milder and more lasting on account of the gradual liberation of the phenol.

Useful in acne, sycosis, seborrhea and chilblains.

Euresol pro Capillis is Euresol, which is perfumed for use in hair lotions. For particulars, see N. N. R.

No. 585.

EURESOL HAIR LOTION.

Drs. White and Elliot.

Euresol.....	8 mls
Mercuric Chloride.....	0.24 Gm.
Spirit Formic Acid N. F.....	30 mls
Castor Oil.....	4 mls
Alcohol, a sufficient quantity,	_____

To make..... 200 mls

Apply to scalp every morning against dandruff and baldness.

No. 586.

EURESOL HAIR TONIC.

Dr. P. Jacob.

Euresol pro Capillis.....	10 mls
Alcohol.....	125 mls
Distilled Water, a sufficient quantity,	_____

To make..... 250 mls

If the scalp is very dry, it is advisable to add 5 mls of Liquid Petrolatum to this Hair Tonic, or to use Euresol Hair Pomade.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

CHICAGO.

The regular monthly meeting of the Chicago Branch, American Pharmaceutical Association, was held May 25, 1917, at Kuntz-Remlers.

The discussion of the evening centered about the report of the committee named at the April meeting to formulate a plan by which the pharmacist can most effectively do his share in the great war.

The report of this committee was summarized as follows:

1. Representation on the Advisory Commission of the National Council of Defense.
2. Wider employment as pharmacist in the Army, the Navy and the Hospital Corps.
3. Pharmaceutical service for the Red Cross units.
4. Pharmaceutical service for soldiers' dependent families.
5. Meeting the war taxes.
6. Collection and cultivation of medicinal plants.
7. Conservation of medicines.

Of the very interesting discussion, the following items will present a summary:

1. The formation of a committee representing the pharmaceutical manufacturing houses to assist the Advisory Committee of the National Council of Defense in the buying of pharmaceutical supplies, as was recently announced in the journals, was heartily commended, and it was the opinion of the meeting that this committee would insure the supply of pharmaceuticals to the government with the least disturbance of regular conditions.

The employment by the Council of Defense of the pharmacists and the pharmacologists in the government service at Washington for advice and assistance along scientific lines in their own professions, was also approved at the meeting.

Yet it was the expression of the meeting that the government should give a fuller recognition to pharmacy by placing a representative of scientific pharmacy on the Advisory Commission. Such a man should be a leader in pharmaceutical research, the scientific advisor along pharmaceutical lines and the representative of the pharmacists of the

Army and Navy in the war councils of our nation.

2. Pharmacy as such is certainly entitled to a definite position in the medical corps of the Army and Navy and the hospital service, and the American Pharmaceutical Association is urged to undertake the securing of this recognition of pharmacy by the government. Trained pharmacists should be placed in charge of the preparation, standardization and distribution of all medicines intended for use of the Army and Navy. Such men must be given rank of officers and be organized into a definite corps known as the pharmaceutical corps, for such a corps is just as essential to complete medical service as the ordinance corps is to the line.

3. Pharmacists should volunteer to render service in the Red Cross units even though the ability and service of the pharmacist is not fully recognized by the surgeon in charge of the unit.

4. Pharmaceutical service by the retail pharmacist for the dependent families of the enlisted men should be freely offered. While it is true that the support of the dependent families of enlisted men must be undertaken by the National Government, yet where opportunity offers for the pharmacist to do his bit along these lines, as is now the case in Chicago, he should respond freely. The plan formulated by Dr. Jacob Frank, Surgeon-General of Illinois, and the Chicago Retail Druggists' Association, to provide pharmaceutical service in connection with medical service for the dependent families of soldiers, was heartily endorsed and commended at the meeting. It provides that any dependent family of an enlisted man shall be furnished with pharmaceutical service upon recommendation of the medical man in charge of the family. A portion of the cost of the medical and pharmaceutical service should be met either by the National Government or from a fund raised by cities or states for the purpose.

5. The question of the proposed stamp taxes and other taxes directly affecting the retailer, received discussion. The stamp tax was universally condemned. If a tax of any

kind must be placed on patent medicines, toilet preparations and sundries, let it be a five percent tax imposed on the value of the goods at the place of manufacture or production. Mr. Storer presented a tabulation to show that under the proposed revenue law as framed by the House of Representatives, Listerine would pay nineteen different taxes. Pharmacists should meet the war taxes in a truly patriotic manner, but we are not in favor of a discriminatory tax and believe that the retail pharmacist should not alone bear all the tax placed on medicines.

E. N. GATHERCOAL, *Secretary*.

NEW YORK.

A special meeting of the New York Branch of the American Pharmaceutical Association was called to order at 8.50 P.M. by President Mayer at the New York College of Pharmacy on May 28, 1917.

Twenty-eight members were present.

President Mayer announced the appointment of Dr. G. Horstmann as successor to our late Treasurer.

Mr. Mayo read the following lines of appreciation of what the late Professor C. Lewis Diehl had done for pharmacy and the American Pharmaceutical Association:

"After a long, a useful and a happy life, Professor C. Lewis Diehl, of Louisville, has been called to eternal rest. He served his country as a soldier and suffered from 1863 down to the time of his death from a wound received at the Battle of Stone River. He was thoroughly informed in every phase of pharmacy, was a linguist of wide knowledge and performed a service for pharmacy in the preparation of the Report on the Progress of Pharmacy in the American Pharmaceutical Association of inestimable value. These reports, covering years, are masterpieces in their clarity, conciseness and accuracy, and show the soundness of his judgment in the choice of materials and in the use made of them. The work done by him in this particular direction was probably the most important single factor in the development and growth of the American Pharmaceutical Association, for through them a collection of the Proceedings of the American Pharmaceutical Association became a complete record of the progress of pharmacy throughout the world.

The same qualities which made him so useful as reporter on the progress of pharmacy also made him an ideal chairman of the committee of revision of the National Formulary. The

annual reports he has made as chairman of the committee were always replete with interest and the work itself stands as a lasting monument to his skill as a pharmacist and to his sound judgment as an editor.

Personally Mr. Diehl was one of the most delightful of men, retaining his charming *bonhomie* to the last even when advancing years and increasing infirmities gave adequate excuse of irascibility. In his life American pharmacy has a most brilliant example of what the pharmacist should be, and in his death American pharmacy has suffered an irretrievable loss."

Dr. Lascoff read the following resolutions on the death of Professor Ferguson:

"WHEREAS, By the death of our beloved and distinguished colleague, Professor George A. Ferguson, the New York Branch of the American Pharmaceutical Association has lost a true and noble friend, whose talent, scholarship, and splendid record of life-work will long be remembered by the pharmaceutical profession; therefore be it

"*Resolved*, That we hereby record our profound sense of the loss we have sustained by his death; and our heartfelt sympathy with his surviving family in this their hour of bereavement; and be it further

"*Resolved*, That the Secretary be authorized to spread these resolutions in full upon the minutes of this meeting, and that a suitable copy be prepared and sent to Mrs. Ferguson."

The Secretary read the following few words and resolutions submitted by Professor Arny in appreciation of Mr. Main:

"The New York Branch of the American Pharmaceutical Association shares with the parent organization a great loss in the passing of Thomas F. Main, who departed this life on April 27, 1917.

"Mr. Main was for forty-five years a faithful member of the American Pharmaceutical Association. Quiet and unassuming, he preferred to do his work for the Association as a modest member of a committee rather than in the more spectacular elective offices. Yet the Association singled him out as one of its rarest and best when it honored itself as well as Mr. Main by conferring upon him the honorary presidency for 1912. And again, only last year, when the need of strong men in the Council of the Association was evident, the electorate picked as one of the councillors, Mr. Main, who was called to his reward before he assumed the office.

"In our own Branch, the loss occasioned by the death of Mr. Main is most keenly felt, for it is those like us, who had the privilege of frequent meeting with him, upon whom the blow has fallen most heavily.

"A man without blemish, yet free from cant; a man without enemies, yet a fighter for the right; a man without affectation, yet punctilious as to the finer things of life. Mr. Main stood a dominant figure in pharmacy of this city, state and nation; one who can be illy spared from the work which he performed for our calling.

"In face of the loss of so good, so kindly, so gentle a man, our sorrow should be expressed with a simplicity befitting Mr. Main's unassuming character. The Branch therefore records its great loss in the following terse paragraphs:

"*Resolved*, That the New York Branch of the American Pharmaceutical Association in sorrow registers its appreciation of the untarnished life of Thomas F. Main, of his devoted services to pharmacy and of his splendid qualities as friend and member.

"*Resolved*, That this Branch expresses its deep realization of the loss that has come upon it by the death of Mr. Main by a standing vote of sorrow and by a recording of these resolutions upon its minutes.

"*Resolved*, That a copy of these resolutions be transmitted to the relatives of Mr. Main as a token of our sympathy."

Professor Hostmann read the following brief history and resolutions in honor of our late Treasurer, Dr. Joseph Weinstein:

"**WHEREAS**, Our late Treasurer, Joseph Weinstein, was suddenly taken from our midst at our regular meeting on May fourteenth, nineteen hundred and seventeen;

"*Be it resolved*, By the members of the New York Branch of the American Pharmaceutical Association, that as an expression of the deep sense of personal loss felt by the members of this Branch, a page in the minutes be set aside for these resolutions, and

"*Be it Furthermore Resolved*, That the members of the Branch hereby extend to his family their deepest condolences in this hour of their great bereavement; and

"*Be it Furthermore Resolved*, That the Secretary be directed to forward a copy of these resolutions to the family of our deceased member."

All the preceding resolutions were adopted by a rising vote.

Dr. Diekman, Dr. Diner, Dr. Hostmann, Mr. Mayo, Mr. Sher, Dr. Lascoff and Dr.

Mayer each added a few touching words regarding some phase of Dr. Weinstein's life, with which they were most familiar, and all were unanimous in their high appreciation of the wonderful character of the deceased.

The Secretary reported the fact that Mr. Dunn was very ill but had requested copies of the memorial resolutions adopted by the Branch at this meeting.

Mr. Mayo moved that in addition a vote of regret at his illness be conveyed to Mr. Dunn. This was seconded and carried.

Dr. Mayer spoke a few words of thanks due to Drs. Diner and Hohmann and Satterthwaite for their prompt services at our last regular meeting.

President Mayer appointed the following committee to take care of the turning over of the books to the new treasurer: Dr. Hostmann, Mr. Sher and Mr. Roller.

The following delegates to conventions were appointed by President Mayer:

American Pharmaceutical Association—Jacob Diner, C. O. Bigelow, Jos. L. Turner; N. Y. State Pharmaceutical Association—George C. Diekman, Frank L. McCartney, J. Leon Lascoff; New Jersey Pharmaceutical Association—Hugo H. Schaefer, Gustav Horstmann, Robert Lehman; National Association Retail Druggists—Jacob H. Reh fuss, August Diehl; Connecticut Pharmaceutical Association—Thomas Latham, Turner F. Currens, Jeannot Hostmann.

Mr. Mayo brought up the question of the drafting of pharmacists and moved for the adoption of the following resolutions:

"**WHEREAS**, The welfare of the community demands and the laws provide that none but qualified pharmacists shall be permitted to prepare and dispense medicines; and

"**WHEREAS**, Many qualified pharmacists will be amenable to draft into the Army by conscription; and

"**WHEREAS**, In many cases such draft may leave the pharmacy without legally qualified men to prepare and dispense medicines, thereby imperilling the lives of the sick; therefore be it

"*Resolved*, By the New York Branch of the American Pharmaceutical Association, that the President of the United States be requested to make provision for the exemption from service under the draft of one qualified pharmacist and of one qualified assistant pharmacist for each pharmacy in the United States, and in addition, one qualified pharmacist and one qualified assistant pharmacist for each fifty prescriptions, or part thereof, compounded

daily in said pharmacy above the first fifty; and be it further

"Resolved, That copies of these resolutions be sent to the President of the American Pharmaceutical Association, to the members of the Council, to the presidents of the several branches, and to the members of the National Drug Trade Conference, with a request that they too ask for the exemption of a sufficient number of pharmacists to protect the public welfare by maintaining a competent staff of qualified pharmacists and assistants in every pharmacy in the United States."

This was duly seconded and carried, after some discussion.

The Secretary, in the absence of the Chairman of the Membership Committee, presented the following applications for membership in the parent association: Attilio Graziani, New York City, N. Y.; Leonard Steiger, Hillsdale, N. J.; B. Klatz, Yonkers, N. Y.

The Secretary was directed to follow the usual course with regard to these applications.

The meeting was then ajourned.

The meeting of the Executive Board of the New York Branch of the American Pharmaceutical Association was called to order on May 28, 1917, at the New York College of Pharmacy, at 8.00 P.M., by President Mayer.

There were nine members present.

It was regularly moved and seconded that the regular sessions of the local Branch be divided into two separate and distinct parts—the business meeting to begin at 8.00 P.M., and to close at 8.30 P.M. During this business meeting all committee reports with the exception of that of the Committee on Progress of Pharmacy are to be submitted. Discussion on any part of the business meeting is to be limited to three minutes and no member shall speak more than once on any topic except by the consent of a majority of those members present, or by permission of the chair. The time of the business meeting may be extended beyond thirty minutes by a majority vote of the members present. The scientific session is to begin at 8.30 and shall consist, first, of the report of the Committee on Progress of Pharmacy and, second, of the papers of the evening. While there is to be no time limit to the papers read, yet the discussion of these papers by any member is to be limited to five minutes except by the unanimous consent of those present, this motion to be submitted at the next regular meeting.

After considerable discussion, the motion was carried.

HUGO H. SCHAEFER, *Secretary*.

COUNCIL BUSINESS

A. PH. A. COUNCIL LETTER NO. 24.

PHILADELPHIA, PA., June 1, 1917.

To the Members of the Council:

Motion No. 28 (Appropriation of \$15 to Committee on Patents and Trade Marks) and No. 29 (Election of Members; applications Nos. 124-148 inclusive), have each received a majority of affirmative votes.

Prof. Clair A. Dye has been elected a representative to the Council by the Columbus Branch, succeeding George B. Kauffman, whose term has expired.

Francis E. Bibbins, Secretary of the Indianapolis Branch, writes "I am enclosing a copy of some resolutions which were unanimously adopted by the Indianapolis Branch of the American Pharmaceutical Association."

The resolutions are:

"WHEREAS, Local Branches of the American Pharmaceutical Association have often passed resolutions on or expressed public opinions in regard to matters of national importance, and

"WHEREAS, such resolutions or opinions can be easily misunderstood as representing the action of the whole association

"Be it Resolved, that it is the sense of the Indianapolis Branch of the A. Ph. A. that resolutions or opinions of local branches, affecting matters of national importance should not be made public until they have received the endorsement of the Council of the American Pharmaceutical Association, and that moreover Local Branches should not confer nor appoint committees to confer with national organizations or societies as this is a function of the parent association and,

"Be it Further Resolved, that copies of these resolutions be sent to the Secretary of the American Pharmaceutical Association and the Secretary of the Council with the request that they be made a special order of business for the meeting of the Council on August 28, 1917."

Charles A. Apmeyer, Secretary of the Cincinnati Branch writes:

"In view of the numerous correspondence regarding the continuance or discontinuance of the Year Book, from the Philadelphia, New York, Washington, D. C., Columbus, O., and other branches, the Cincinnati Branch passed the following resolution:

"Resolved, that the Cincinnati Branch submits for consideration to the Council of the A. Ph. A., that in connection with meeting the expense of publishing the Year Book, they consider the feasibility of having voluntary contributions to defray such expenses; or, otherwise, publication on subscription."

The following communication has been received from General Secretary Day:

"I desire to offer a motion for an additional appropriation of \$100.00 for the National Drug Trade Conference. This motion is seconded by Professor J. A. Koch and has the approval of the Finance Committee.

The extraordinary conditions created by the war have made necessary an extra meeting of the Conference and this has entailed increased expenditure for traveling expenses of our representatives.

The original appropriation in the budget (see Council Letter No. 10, page 23) was \$100.00 and a motion appropriating \$100.00 additional was subsequently made (see Council Letter No. 18, motion No. 22). The motion now offered contemplates bringing the total, appropriated for this purpose, up to \$300.00 which presumably will be sufficient to meet expenditures for the remainder of the year."

Do you favor above motion? It will be regarded as *Motion No. 30 (Additional appropriation of \$100.00 for National Drug Trade Conference)*.

Motion No. 31 (Election of Members). The following applications have been presented:

- No. 149. G. D. Searle, 215-219 W. Ohio St., Chicago, Ill., rec. by E. G. Eberle and J. W. England.
- No. 150. Denver Douglas Newberry, Valdosta, Ga., rec. by P. Lomas and F. V. Eidson.
- No. 151. Frank J. Davis, Fayette, Iowa, rec. by G. Scherling and Al. Falkenhainer.
- No. 152. Harold Gray, 537 E. 11th, Flat No. 2, Indianapolis, Ind., rec. by E. A. Wildman and F. A. Federer.
- No. 153. Edward Valentine Sheel, 554 Vance Ave., Memphis, Tenn., rec. by Ira B. Clark and Wm. B. Day.
- No. 154. Henry Frank Wall, U. S. Navy, Dallas, Texas, rec. by J. M. Fletcher and Harry Deathe, Ph.G.
- No. 155. Nellie A. Wakeman, 356 Chemistry Bldg., Madison, Wisc., rec. by E. G. Eberle and J. W. England.

- No. 156. Gordon Alger Bergy, Morgantown, W. Va., rec. by E. G. Eberle and J. W. England.
- No. 157. E. Eleazar, Kaplon, La., rec. by F. C. Godbold and Henry Welch.
- No. 158. Cecil V. Rogers, Main St. near Ervay, Dallas, Texas, rec. by Jacob Schrodt and E. G. Eberle.
- No. 159. Henry F. Hein, 601 Goliad St., San Antonio, Texas, rec. by E. G. Eberle and Jacob Schrodt.
- No. 160. William Carroll Burns, 240 E. Houston Sq., San Antonio, Tex., rec. by E. G. Eberle and R. H. Walker.
- No. 161. A. J. Urbish, Oak Lawn & Dickson, Dallas, Texas, rec. by E. G. Eberle and R. H. Walker.
- No. 162. Louis C. Brenner, Gonzales, Texas, rec. by E. G. Eberle and R. H. Walker.
- No. 163. L. C. Gibson, Jourdanton, Texas, rec. by E. G. Eberle and C. A. Duncan.
- No. 164. John A. Spinks, Grapevine, Texas, rec. by Jacob Schrodt and C. A. Duncan.
- No. 165. Frank Joseph Nuccio, 1040 Dauphine St., New Orleans, La., rec. by R. F. Grace and Paul Freund.
- No. 166. Berger Lindh, 11223 Edbrooke Ave., Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.
- No. 167. Charles Falkenhainer, Booth & Julien Ave., Dubuque, Iowa, rec. by Al. Falkenhainer and G. Scherling.
- No. 168. A. Ralph Eberle, 27th & Locust Sts., Milwaukee, Wisc., rec. by E. G. Eberle and H. T. Eberle.
- No. 169. John Luther Guice, Millry, Ala., rec. by Oscar C. Dilly and Arthur Lee Suter.
- No. 170. John Pfeiffer, 144 W. Commerce St., San Antonio, Texas, rec. by Jacob Schrodt and E. G. Eberle.
- No. 171. Frank Joseph Calderone, 1200 Teche St., Algiers (N. O.) La., rec. by Philip Asher and Wm. B. Day.
- No. 172. J. H. Stribbling, Philadelphia, Miss., rec. by J. C. Melee and Wm. B. Day.

J. W. ENGLAND,
Secretary of the Council.

415 N. THIRTY-THIRD STREET.

AMERICAN PHARMACEUTICAL ASSOCIATION

Organized: Philadelphia, 1852.

Incorporated: Washington, D. C., 1888

OFFICIAL ROSTER FOR 1916-1917

GENERAL OFFICERS.

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<i>Honorary President</i> —J. O. BURGE.....	1502 McGavock St., Nashville, Tenn.
<i>First Vice-President</i> —LEONARD A. SELTZER.....	32 Adams St., W. Detroit, Mich.
<i>Second Vice-President</i> —LUCIUS E. SAYRE.....	1323 Ohio St., Lawrence, Kansas
<i>Third Vice-President</i> —PHILIP ASHER.....	1606 St. Charles Ave., New Orleans, La.
<i>General Secretary</i> —WILLIAM B. DAY.....	701 So. Wood St., Chicago, Ill.
<i>Treasurer</i> —HENRY M. WHELPLEY.....	2342 Albion Place, St. Louis, Mo.
<i>Reporter on the Progress of Pharmacy</i> —H. V. ARNY.....	115 West 68th St., New York, N. Y.
<i>Editor of the JOURNAL</i> —E. G. EBERLE.....	253 Bourse Bldg., Philadelphia, Pa.
<i>Local Secretary</i> —FRANCIS E. BIBBINS.....	4246 Cornelius Ave., Indianapolis, Ind.

OFFICERS-ELECT FOR 1917-1918.

(To be installed at the 65th Annual Convention.)

<i>President</i> —CHARLES HOLZHAUER.....	Newark, N. J.
<i>First Vice-President</i> —ALFRED R. L. DOHME.....	Baltimore, Md.
<i>Second Vice-President</i> —LEONARD A. SELTZER.....	Detroit, Mich.
<i>Third Vice-President</i> —THEODORE J. BRADLEY.....	Boston, Mass.
<i>Members of the Council</i> —FREDERICK J. WULLING.....	Minneapolis, Minn.
GEORGE M. BERINGER.....	Camden, N. J.

OFFICERS OF THE HOUSE OF DELEGATES FOR 1916-1917.

<i>Chairman</i> —J. H. BEAL.....	801 W. Nevada St., Urbana, Ill.
<i>First Vice-Chairman</i> —S. C. HENRY.....	508 S. 61st St., Philadelphia, Penna.
<i>Second Vice-Chairman</i> —O. F. CLAUS.....	3513 Herbert St., St. Louis, Mo.
<i>Secretary</i> —JEANNOT HOSTMANN.....	115 West 68th St., New York, N. Y.

OFFICERS OF THE COUNCIL FOR 1916-1917.

<i>Chairman</i> —LEWIS C. HOPP.....	1104 Euclid Ave., Cleveland, Ohio
<i>Secretary</i> —JOSEPH W. ENGLAND.....	415 North Thirty-third St., Philadelphia, Pa.

MEMBERS OF THE COUNCIL FOR 1916-1917.

(Elected by the Association.)

OTTO F. CLAUS, St. Louis, Mo.....	Term expires 1917
GEORGE M. BERINGER, Camden, N. J.....	Term expires 1917
CASWELL A. MAYO, New York, N. Y.....	Term expires 1918
F. M. APPLE, Philadelphia, Pa.....	Term expires 1918
H. V. ARNY, New York, N. Y.....	Term expires 1918
J. H. BEAL, Urbana, Ill.....	Term expires 1919
H. B. MASON, Detroit, Mich.....	Term expires 1919

(Elected by Local Branches.)

HERMANN ENGELHARDT, Baltimore Branch.....	Baltimore, Md
C. T. P. FENNEL, Cincinnati Branch.....	Cincinnati, Ohio
CLYDE M. SNOW, Chicago Branch.....	Chicago, Ill.
CLAIR A. DYE, Columbus Branch.....	Columbus, Ohio
SAMUEL T. HENSEL, Denver Branch.....	Denver, Colo.
W. A. HALL, Detroit Branch.....	Detroit, Mich.
FRANK R. ELOREN, Indianapolis Branch.....	Indianapolis, Ind.
WILLIAM R. WHITE, Nashville Branch.....	Nashville, Tenn.
E. H. LAPIERRE, New England Branch.....	Cambridge, Mass.
JEANNOT HOSTMANN, New York Branch.....	New York, N. Y.
LEWIS C. HOPP, Northern Ohio Branch.....	Cleveland, Ohio
F. J. WULLING, Northwestern Branch.....	Minneapolis, Minn.
FRANCIS E. STEWART, Philadelphia Branch.....	Philadelphia, Pa.
J. A. KOCH, Pittsburgh Branch.....	Pittsburgh, Pa.
CLARISSA M. ROEHR, San Francisco Branch.....	San Francisco, Cal.
J. A. WILKERSON, St. Louis Branch.....	St. Louis, Mo.
H. C. FELLER, Washington, D. C. Branch.....	Washington, D. C.

(Members of Council Ex-Officio.)

The President, Honorary President, Vice-Presidents, General Secretary, Treasurer, Reporter on the Progress of Pharmacy, Secretary of the Council, Local Secretary, Historian, and the Chairmen of the Sections.

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<i>Second Vice-Chairman</i> —A. W. LINTON.....	Seattle, Wash.
<i>Secretary</i> —W. W. STOCKBERGER.....	Washington, D. C.

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<i>Secretary</i> —C. B. Jordan.....	409 Russell St., Lafayette, Ind.
<i>Associates</i> { A. W. LINTON.....	Seattle, Wash.
{ H. V. ARNY.....	115 W. 68th St., New York, N. Y.
{ JOHN CULLEY.....	2479 Washington Ave., Ogden, Utah.

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<i>Associates</i> { MRS. ST. CLAIR R. GAY.....	2787 Broadway, New York, N. Y.
{ CHARLES W. HOLZHAUER, JR.....	53 Spruce St., Newark, N. J.

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<i>Chairman</i> —HENRY UTECH.....	209 Chestnut St., Meadville, Pa.
<i>Secretary</i> —ROBERT P. FISCHER.....	828 N. Fifth St., Philadelphia, Pa.
{ A. H. ACKERMANN.....	313 Union St., Lynn, Mass.
<i>Associates</i> { S. K. SASS.....	1725 W. 18th St., Chicago, Ill.
{ J. H. WEBSTER.....	866 Jefferson St., Detroit, Mich.

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<i>Chairman</i> —W. L. DUBOIS.....	379 Main St., Catskill, N. Y.
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<i>Historian</i> —E. G. EBERLE.....	253 Bourse Bldg., Philadelphia, Pa.

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<i>First Vice-President</i> —MRS. E. FINE.....	Boulder, Colo.
<i>Second Vice-President</i> —MRS. G. M. BERINGER.....	Camden, N. J.
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<i>Secretary</i> —MRS. JEAN MCKEE KENASTON.....	Bonesteel, S. D.
<i>Treasurer</i> —MRS. FRANKLIN APPLE.....	Philadelphia, Pa.
<i>Historian</i> —MISS BERTHA OTT.....	Cincinnati, Ohio
<i>Chairman of Executive Committee</i> —MRS. G. D. TIMMONS.....	Valparaiso, Ind.

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	E. H. LAPIERRE.....		Cambridge, Mass.

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Ex-Officio Members—The Editor, Reporter on the Progress of Pharmacy, General Secretary, and Treasurer.

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E. G. EBERLE.....	Philadelphia, Pa.	H. M. WHELPLEY, <i>ex-officio</i>	St. Louis, Mo.

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F. J. WULLING, <i>Chairman</i>	Minneapolis, Minn.	WM. B. DAY.....	Chicago, Ill.
	J. A. KOCH.....		Pittsburgh, Pa.

AUDITING COMMITTEE.

OTTO F. CLAUS, <i>Chairman</i>	St. Louis, Mo.	CHARLES GIETNER.....	St. Louis, Mo.
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WILLIAM B. DAY.....	Chicago, Ill.	FRED I. LACKENBACH.....	San Francisco, Calif.
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CHAS. CASPARI, JR.....	Baltimore, Md.	C. HERBERT PACKARD.....	East Boston, Mass.
		F. W. NITARDY.....	Denver, Colo.

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ADAM WIRTH.....			New Orleans, La.

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JOHN G. ROBERTS, Philadelphia, Pa.	Term expires 1917
OTTO RAUBENHEIMER, Brooklyn, N. Y.	Term expires 1917
GEORGE D. ROSENGARTEN, Philadelphia, Pa.	Term expires 1917
F. H. RUSBY, Newark, N. J.	Term expires 1918
F. R. ELORED, Indianapolis, Ind.	Term expires 1918
JOHN M. FRANCIS, Detroit, Mich.	Term expires 1918
ELMER E. WYCKOFF, Brooklyn, N. Y.	Term expires 1919
J. A. KOCH, <i>Chairman</i> , Pittsburgh, Pa.	Term expires 1919
L. D. HAVENHILL, Lawrence, Kan.	Term expires 1919
E. L. NEWCOMB, Minneapolis, Minn.	Term expires 1919
HENRY KRAEMER, Philadelphia, Pa.	Term expires 1920
EUSTACE H. GANE, New York City.	Term expires 1920
B. L. MURRAY, Rahway, N. J.	Term expires 1920
W. A. PUCKNER, Chicago, Ill.	Term expires 1920

COMMITTEE ON RECIPE BOOK.

JOHN K. THUM, Philadelphia, Pa.	Term expires 1917
I. A. BECKER, Chicago, Ill.	Term expires 1917
CLARISSA M. ROEHR, San Francisco, Calif.	Term expires 1917
CLARENCE G. SPALDING, New Haven, Conn.	Term expires 1918
E. FULLERTON COOK, Philadelphia, Pa.	Term expires 1918
WILLIAM GRAY, Chicago, Ill.	Term expires 1918
THEO. D. WETTERSTROEM, Cincinnati, Ohio	Term expires 1919
P. HENRY UTECH, Meadville, Pa.	Term expires 1919
WM. L. CLIFFE, Philadelphia, Pa.	Term expires 1919
OTTO RAUBENHEIMER, <i>Chairman</i> , Brooklyn, N. Y.	Term expires 1920
C. H. LAWALL, Philadelphia, Pa.	Term expires 1920
W. L. SCOVILLE, Detroit, Mich.	Term expires 1921
W. H. GLOVER, Lawrence, Mass.	Term expires 1921
CURT P. WIMMER, New York City	Term expires 1921

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CHARLES CASPARI, JR., Baltimore, Md.	Term expires 1918
JAMES H. BEAL, <i>Chairman</i> , Urbana, Ill.	Term expires 1920
W. H. COUSINS, Dallas, Tex.	Term expires 1920

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(Appointed by the President.)

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JAMES H. BEAL.....Urbana, Ill.	SAMUEL L. HILTON.....Washington, D. C.
W. F. GIDLEY.....Lafayette, Ind.	

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C. L. ALSBERG.....Washington, D. C.	

PHARMACEUTICAL SYLLABUS.

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P. GERHARD ALBRECHT, Cleveland School of Pharmacy, Cleveland, Ohio.	Term expires 1918
CHARLES CASPARI, JR., University of Maryland, Baltimore, Md.	Term expires 1919
E. C. EBERLE, Philadelphia Drug Exchange, Bourse Bldg., Philadelphia, Pa.	Term expires 1920
HARRY B. MASON, P. O. Box 484, Detroit, Mich.	Term expires 1921
GEORGE M. BERINGER, 501 Federal St., Camden, N. J.	Term expires 1922
H. H. RUSBY, New York, N. Y.	Term expires 1923

PHYSIOLOGICAL TESTING.

E. M. HOUGHTON, <i>Chairman</i>Detroit, Mich.	WILLIAM A. PEARSON.....Philadelphia, Pa.
E. L. NEWCOMB.....Minneapolis, Minn.	PAUL S. PITTENGER.....Philadelphia, Pa.

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H. M. WHELPLEY.....St. Louis, Mo.	G. M. BERINGER.....Camden, N. J.
HARRY B. MASON.....Detroit, Mich.	

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WILLIAM C. ANDERSON.....Brooklyn, N. Y.	J. F. RUPERT.....New York City
W. B. DAY.....Chicago, Ill.	

UNITED STATES PHARMACOPOEIA.

L. D. HAVENHILL, <i>Chairman</i>	Lawrence, Kan.	Term expires 1917
L. F. KEBLER, <i>Washington</i>	D. C.	Term expires 1918
E. N. GATHERCOAL, <i>Chicago</i>	Ill.	Term expires 1919
E. FULLERTON COOK, <i>Philadelphia</i>	Pa.	Term expires 1920
E. H. LAPIERRE, <i>Cambridge</i>	Mass.	Term expires 1921
H. A. B. DUNNING, <i>Baltimore</i>	Md.	Term expires 1922
HERMANN ENGELHARDT, <i>Baltimore</i>	Md.	Term expires 1923
A. B. LYONS, <i>Detroit</i>	Mich.	Term expires 1924
WILLIAM MITTELBACH, <i>Boonville</i>	Mo.	Term expires 1925
REID HUNT, <i>Boston</i>	Mass.	Term expires 1926

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CHARLES W. JOHNSON.....	Seattle, Wash.	CLYDE M. SNOW.....	Chicago, Ill.
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EDWARD W. STUCKY.....	Indianapolis, Ind.	F. E. BIBBINS.....	Indianapolis, Ind.
	M. A. STOUT.....		Bluffton, Ind.

TIME AND PLACE OF NEXT MEETING.

C. M. SNOW, <i>Chairman</i>	Chicago, Ill.	F. W. NITAROY.....	Denver, Colo.
S. L. HILTON.....	Washington, D. C.	PHILIP ASHER.....	New Orleans, La.
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	LYMAN F. KEBLER.....		Washington, D. C.

DELEGATES, 1917.

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HENRY M. WHELPLEY.....	St. Louis, Mo.	C. P. VAN SCHAAK.....	Chicago, Ill.

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BERNARD FANTUS.....Chicago, Ill. L. A. BROWN.....Boston, Mass.
E. H. LAPIERRE.....Cambridge, Mass. FRED T. LACHENBACH.....San Francisco, Cal.
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HARRY W. CROOKS, Newark.

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THOMAS R. TAYLOR, Norfolk.

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ALFRED WALKER, Sutton.

G. O. YOUNG, Buckhannon.

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L. BERGER, New York.

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EMIL REYER, South Bend.

W. H. RUDER, Salem.

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J. C. MCGEE, Jackson.
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HERMAN A. NESTER, San Antonio.
JACOB SCHRODT, Dallas.
HARRY DEATHE, Cooper.
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OSWALD CHAPMAN, Panama City.
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EDWIN DEBARR, Norman.
FRANK A. DINKLER, Hennesey.
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CHARLES P. GREYER, Morgantown.
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South Carolina—JOSEPH B. HYDE, *Chairman*, Charleston.
HENRY PLENCE, Charleston.
W. H. ZEIGLER, Charleston.
Tennessee—WILLIAM R. WHITE, *Chairman*, Nashville.
IRA B. CLARK, Nashville.
W. I. GATES, Whiteville.
J. E. JUSTICE, Clarksville.
T. J. SHANNON, Sharon.
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Missouri—H. M. WHELFLEY, *Chairman*, St. Louis.
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HENRY D. LLEWELLYN, Mexico.
WM. MITTELBACH, Buoneville.
D. V. WHITNEY, Kansas City.
JEROME A. WILKERSON, St. Louis.
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J. S. CHISM, Wichita.
MAXIMILIAN W. FRIEDENBURG, Winfield.
D. VON RIESEN, Marysville.

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CHAS. H. HUHN, Minneapolis.
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KENNETH B. BOWERMAN, San Francisco.
FRED. I. LACKENBACH, San Francisco.
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Special Sub-Committee on Pharmacists in U. S. Government Service.

ALBERT M. ROEHRIG.....	Buffalo, N. Y.	A. M. THOMAS.....	Blaine, Wash.
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Special Sub-Committee on Food and Drug Chemists.

CHARLES H. LAWALL.....	Philadelphia, Pa.	LYMAN F. KEBLER.....	Washington, D. C.
LINWOOD A. BROWN.....	Boston, Mass.	CHARLES CASPARI, JR.....	Baltimore, Md.

Special Sub-Committee on Wholesale Druggists and Manufacturers.

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Special Sub-Committee on Faculties of Pharmacy Schools.

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ORGANIZATION OF LOCAL BRANCHES, 1916-1917.

(The General Secretary should have prompt notice of corrections and changes.)

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<i>Council Representative</i> —HERMANN ENGELHARDT	

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NOTE.—Please report incorrections in Association Committees to *Secretary WILLIAM B. DAY*, 701 South Wood Street, Chicago, Ill. Errors in Council Committees should be reported to *J. W. ENGLAND, Secretary*, 415 North 33rd Street, Philadelphia, Pa.

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Office of Publication, 253 Bourse Building, Philadelphia, Pa.

LEGISLATION.

The Pennsylvania Anti-Narcotic Bill has been passed by the legislature and it is said will unquestionably be signed by the Governor. The bill prohibits the possession, control, dealing in, giving away, delivery, dispensing, administering, prescribing and use, except under a few exceptions, of any narcotic drug. Penalties for violation are high and the bill requires physicians, dentists and veterinarians to keep records of all prescriptions containing narcotic drugs and prohibits them from prescribing for addicts except under the direction of the State Department of Health. Violations are punishable by fines of \$1000 and licenses are suspended or revoked. Trafficking in narcotics is subject to a fine of \$5000 or five years' imprisonment, or both.

Owing to the delay in furnishing the drug trade with triplicate form official order blanks, the new New York Anti-Narcotic Act, which was to have gone into effect July 1, was not enforced until July 10.

The new Illinois Supervision Plan went into effect July 1 and abolishes all boards and commissions in the State of Illinois that now examine applicants and issue certificates of vocational competency. The powers and duties that have been vested in these boards and commissions will pass to the Department of Registration and Education. The Illinois Board of Pharmacy will be succeeded by a Committee of Pharmacy Examiners, acting under the direction of the new department. Illinois, Iowa, Oregon and North Carolina have been added to the States with prerequisite laws.

A New York law prohibits the advertising, etc., of preparations for venereal disease, etc. The law covers advertising not only in newspapers and by pamphlets, but also every other means of publicity.

The Pennsylvania Board of Pharmacy is at present waiving the age requirement for candidates, assuming that a large number of young pharmacists will be drafted for the Army.

Evidently the department stores are feeling the burden of the delivery system, at any rate

there seems to be under contemplation a provision for handling packages of stores by the parcel post department. Postmaster-General Burleson has stated that this matter would be given consideration. It seems to be a timely proposition for druggists to consider. The Commercial Economy Board of the Council of National Defense has started a campaign "to educate people to carry home their own bundles."

The Post Office Department has defined intoxicating liquors within the meaning of the law forbidding the mailing of liquor advertisements into dry territory, as any drink-containing alcohol. The Department also has ruled that the prohibition against advertisements applies to liquor for scientific, sacramental, medicinal, and chemical purposes. This is very apt to give rise to a great many inconveniences in securing alcohol for manufacturing purposes. The Post Office Department has made no statement as to how the law prohibiting liquor advertisements will affect patent medicines. Undoubtedly the question that will govern is whether the medicine is used as a substitute for intoxicating liquors. The Department has issued "Liquor Bulletin No. 2," showing the territory to which it is unlawful to transmit through the mails matter containing advertisements or solicitations for orders for intoxicating liquor. Following are the states wholly affected by the act:

Alabama, Arizona, Arkansas, Colorado, Georgia, Idaho, Iowa, Kansas, Maine, Mississippi, Nebraska, North Carolina, North Dakota, Oklahoma, Oregon, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, Washington and West Virginia.

Those partially affected are California, Connecticut, Delaware, Louisiana, Maryland, Massachusetts, Minnesota, New Hampshire, New York, Ohio and Texas.

The following are affected at future dates:

Alaska, January 1, 1918; Indiana, April 3, 1918; Michigan, April 30, 1918; Montana, December 31, 1918; and Utah, August 1, 1917.

At the time of this writing it is stated, that by the report of the Senate Committee all Spanish War stamps will be virtually reimposed under the Revenue Bill. The committee has also added a new tax of one cent each on bank checks from five dollars up. It is said that the taxes on patent medicines, perfumery, cosmetics and soft drinks had been greatly reduced.

PHARMACY AND THE WAR, AND OTHER ITEMS.

The following resolutions were presented by Dr. Robert A. Hatcher at the recent annual meeting of the American Medical Association, and received favorable action by the House of Delegates:

"The pharmaceutical service in the Army is unsatisfactory because it is not on a modern basis; there is no pharmaceutical corps devoted to the prosecutions of pharmaceutical duties; pharmacists are compelled to enlist as privates without the hope of promotion to commissioned rank as in the dental and veterinary corps. A professionally trained pharmaceutical corps could be made invaluable to the medical corps as assistants both in the field and in hospitals. We earnestly urge the War Department to establish by Congressional enactment a pharmaceutical corps with definite military standing and responsibilities."

An association of senior medical men in Philadelphia was organized last month, and pharmacists were invited to organize and participate with them in matters of mutual interest for War Service. Since then, the Surgeon-General has indicated that the services of medical men beyond the age of enlistment would be acceptable under certain restrictions, thus doing away in part with the purposes for which this association was organized.

The pharmacists of Philadelphia have organized a Pharmaceutical Military Association, the object being to coöperate with the Association of Senior Medical Men for war service, and also, and more particularly, to secure better recognition for pharmacy and pharmacists by the government. George M. Beringer is chairman of the Association, and Robert P. Fischelis is the secretary. It is hoped to outline a plan of systematic action for the aims of the organization and have these activities extended to every state.

The Drug Trade Recruiting Rally of New York City met at 82 Fulton street, June 25th.

There was music by the Forty-seventh Regiment Band and snappy talks by Dr. William Jay Schieffelin, chairman, Arthur L. Marvin and Caswell A. Mayo. Dr. Schieffelin, who is a veteran of the Spanish-American War, instanced the changes for the better that have been effected since that conflict, and advised his hearers to enlist in a regiment in which their friends had enrolled.

Honorary President, Geo. H. Schafer, writes commending the editorial of June issue, "The Urgent Need of a Pharmaceutical Corps in the U. S. Army," and states that if his slowly-recovering health will permit, he desires to assist Chairman Hilton and others when the draft of such a bill is ready for presentation to members of Congress. He believes that pharmacy should have recognition on the Advisory Council to the Committee on National Defense.

Senator Owens has proposed an amendment to Senate Bill 1786, which provides for the same rank to medical men in the Army, as in the Navy. Perfectly just, but when will any recognition be given to pharmacists?

Dr. Arthur Dean Bevan, President-elect of the American Medical Association, is credited with a large part of the work undertaken by the A. M. A. in the furtherance of higher medical standards. He has been chairman of the Council on Medical Education since its organization in 1904.

The sixty-seventh annual meeting of the Pharmaceutical Society of Great Britain was held during the week of May 16. The subjects under discussion related largely to conditions brought about by the war and affecting pharmacy and pharmacists.

British pharmacists have many things in common with us, even to the extent of having the government withhold proper recognition of the services of pharmacy and refusing deserved rank to those who serve in this very important department of medical service. Notwithstanding the present conditions, the attendance was gratifying and also the accession to the membership. All the officers of last year were re-elected.

The Philadelphia Association of Retail Druggists have provided by resolution that druggists who may be drawn for service will have their business conducted under the auspices of this association during their enforced absence, should they desire to avail themselves of this assistance.

Thomas H. Potts, after nine years of ser-

vice as secretary of the National Association of Retail Druggists, has resigned this important position to accept the office of vice-president in the Great American Chemical Products Company, with headquarters in Chicago. Undoubtedly some one will be found to carry on the good work of Secretary Potts. His successor will follow a very efficient and esteemed official.

Dr. H. H. Rusby, ex-President of the American Pharmaceutical Association, has sailed for Colombia. The original plans for his trip, which was delayed on account of his recent illness, have been somewhat modified. They contemplated a scientific investigation of the Magdalena River valley, the crossing of the Andes, and the botanical exploration of the headwaters of the Orinoco River in search of new and known varieties of medicinal plants and botanical drugs which can be utilized to increase the supply of such drug sources in the present time of need.

Dr. Rusby hopes to return prior to the 1st of October.

The Chicago Veteran Druggists' Association last month celebrated Jamieson day (June 21),

and also the 71st birthday of Wilhelm Bode-mann. The occasion was, as usual, a happy event and a number of out-of-town members and visitors assembled with the Chicago fraters around the carnation-decked banquet table.

The Department of Pharmacy of Oregon Agricultural College at Corvallis has been elevated to the rank of a school by the board of reagents of the college. Prof. Adolph Zieffe, for some time connected with the institution, has been named as dean. Professor Zieffe is at present an instructor in the Summer Session of the College of Pharmacy, University of Michigan.

A CORRECTION IN THE ARTICLE BY DR. A. B. LYONS ON THE "DETERMINATION OF ALCOHOL AND WATER IN OFFICIAL ETHER."

Dr. A. B. Lyons writes that in the formula published in the June issue, page 554, the expressions Dif. and Dif.' were exchanged. The formula should read:

Dif. $\times 185.5$ = Volume percent of water.

Dif.' $\times 895$ = Volume percent of alcohol.

OBITUARY.

PETER MACEWAN.

Peter MacEwan, for many years the editor of the *Chemist and Druggist* (England), died at his home in London, May 16, at the age of sixty. Mr. MacEwan visited in this country in 1893 and was in attendance at the Chicago meeting of the American Pharmaceutical Association. Few, if any, English pharmacists are or were better known in this country than the deceased.

Mr. MacEwan joined the editorial staff of the *Chemist and Druggist* in 1885, under the late Mr. Wootton, upon the retirement of whom, in 1899, he became editor-in-chief, a post which he filled with distinction and success, until the time of his death. Mr. MacEwan, in addition to his editorial labors, was the author of a long list of scientific papers on pharmaceutical subjects and of several standard works of world-wide currency in the sphere of pharmacy, the most important of these being "The Art of Dispensing," first published in 1888, and "Pharmaceutical Formulas," in 1898, both of which have passed through many editions.



PETER MACEWAN, PH.C., F.C.S.

ALOIS VON ISAKOVICS.

Alois von Isakovics died at his home in Monticello, N. Y., June 5. He was born at Prag, July 21, 1870, the son of a Judge Advocate General of the Austrian Army.



ALOIS VON ISAKOVICS.

In 1886, soon after completing a course in chemistry at the University of Vienna Mr. von Isakovics came to the United States and located in New York City, where he, in 1889, started the business in which he continued until his demise. In 1902, the Synflour

Scientific Laboratories were moved to Monticello.

The chapter on Essential Oils, Synthetic Perfume and Flavoring Materials in Dr. Allen Rogers' work, "Industrial Chemistry," was contributed by Mr. von Isakovics. He joined the American Pharmaceutical Association in 1905 and also held membership in quite a number of related associations and societies. His wife and four children survive the deceased.

ROBERT KNIGHT SMITHER.

R. K. Smither, of Buffalo, N. Y., president of the National Association of Retail Druggists in 1902, died at his home, May 27th, in his sixty-sixth year.

Mr. Smither was deeply interested in association work. He served as president of the New York State Pharmaceutical Association from 1896 to 1898. In Erie county, N. Y., his activities made him president of the local association and curator of the Buffalo College of Pharmacy. He was one of the framers of the first pharmacy law of New York, and organized the Erie County Board of Pharmacy, serving as its president in 1884.

WHEN THE WAR IS OVER

15,000 doctors will be released from Army service and will return home to—the panel system; which is closed to most of them, and is already resented by a large number of the doctors serving under it. And some three millions of soldiers, many of them shattered by wounds or disease or nerve-shock, and many more infected by diseases against which our home defence is precarious or non-existent, will also return to civil life. What will be the result on the public health, and on our medical service? Constructive statesmen are anxiously forecasting the future and devising sweeping changes. It is proposed, for instance, to transform the Local Government Board into a Ministry of Health, and a Ministry of Health of some kind we shall surely have. It is proposed, too, that the panel system, with its capitation-fees, should give place to a salaried medical service; and it is a postulate of all the schemes of which I have heard that the present arrangement should be "overhauled," and a new settlement with practitioners be arranged. It is equally noteworthy that in none of these schemes are pharmacy and pharmacists so much as mentioned. Other "vested interests" are considered, but ours are ignored. The doctors, we may suppose, will be able to look after themselves, and we must do the same to the best of our ability. I commend the subject to the consideration of the Council that meets after the election. The crisis impending dwarfs all our domestic difficulties, and we must prepare to meet it.—A correspondent in *Chemist and Druggist*.

JOURNAL OF THE SOCIETIES AND COLLEGES.

GO TO THE INDIANAPOLIS A. PH. A. CONVENTION.

Retail druggists will have an excellent opportunity to enroll for a short course in the "University of Experience" August 27th, when the American Pharmaceutical Association holds its annual convention at Indianapolis.



JOHN HERRON ART INSTITUTE

Not only do such meetings turn pause and ponder into push and progress but they constitute a diversion that offers the best method of getting closer to the vital problems of your profession by getting away from it for a few days. Coöperation spells efficiency. And the benefits that come of rubbing elbows

macy than you can by any amount of individual effort.

Pharmacy needs legislation; pharmacy needs recognition; prestige does not spring from the earth-like mushrooms. The worthy name that pharmacy deserves, the honor that should be attached to such a calling can and will come only through the coöperative efforts of thinking leaders in pharmacy. The American Pharmaceutical Association offers the site and scope for a tremendous effort in the right direction. The members, and their attendance at conventions; their voice as one in the affairs of the association are as the individual bricks in a thirty-story building. One is a small object affording neither shelter nor protection, but in numbers they result in mighty structures.

It is particularly fortunate that the A. Ph. A. convention is being held this year at such a central point. Indianapolis is easy of access. Its hotels are plentiful, hospitable and commodious; the rates are reasonable, and the train service to all points is excellent.

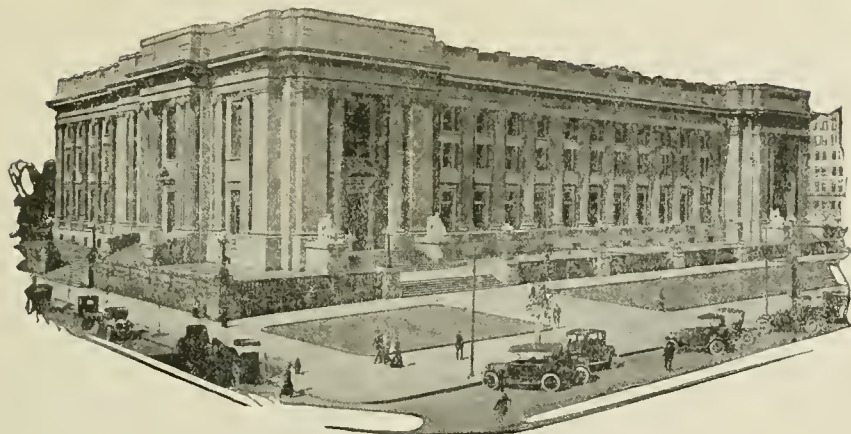
The population of Indianapolis is nearly 300,000. It has been referred to by many travelers as one of the most beautiful laid-out cities in the country. It is a city of individual homes with wide level streets and



Y. M. C. A. BUILDINGS, N. ILLINOIS, INDIANAPOLIS.

with those whose problems are your problems are not to be reckoned on a dollar and cents basis. By giving what you know and adding to yourself the other man's knowledge, you can do more to assist in the progress of phar-

attractive residential districts. Having ample room to grow in all directions there is an absence of crowding. Indianapolis boasts of many beautiful buildings, fine boulevards and parks. Indianapolis is the home of many men



FEDERAL BUILDING, INDIANAPOLIS

of national reputation, including Vice-President Marshall, former Vice-President C. W. Fairbanks, and Meredith Nicholson and Booth Tarkington, the novelists. It is also the home of the well-known cartoonist Kin Hubbard, better known to thousands of newspaper readers as Abe Martin.

The famous speedway with the two and one-half mile paved track is one of the interesting spots of the city. Just at this time Fort Benjamin Harrison a few miles out of the city is a busy place, thousands of young men in training there for the important duties of officers in the United States Army.

The Indianapolis convention will be full of possibilities for progressive pharmacists. There can be no question of being able to afford to go. The question is—can one afford to stay away? While A. Ph. A. conventions are "business first" meetings, the local entertainment committee gives assurance of some special features in the way of recreations and the ladies in particular will be provided with a most enjoyable program of events.

TO MEMBERS OF THE SCIENTIFIC SECTION A. PH. A.

The officers of the Scientific Section of the American Pharmaceutical Association are pleased to announce that ample provision will be made at the Indianapolis meeting for such demonstrations as authors of papers may desire to make. The local committee has generously agreed to furnish ordinary chemical glassware, apparatus, reagents, etc. A stereopticon will also be available for showing lantern slides.

The committee recommends that all lengthy

papers be presented in abstract in order that there may be ample time for demonstrations and discussion.

Your Secretary requests that titles of papers be sent to him as soon as possible, and that the facilities desired for demonstration or illustration be indicated. The tentative program will be published in the August number of the A. Ph. A. JOURNAL, and titles to be included should reach the Secretary by August 1.

Each and every member of the Scientific Section is urged to help make the forthcoming convention one of the best in the history of the A. Ph. A.

W. W. STOCKBERGER, *Secretary*.

Bureau of Plant Industry, U. S. Dept. Agr.,
Washington, D. C.

ANNUAL MEETING OF THE WOMEN'S SECTION, A. PH. A.

The fifth annual meeting of the Women's Section of the American Pharmaceutical Association will be held on the same dates as the sixty-fifth annual meeting of the American Pharmaceutical Association, at Indianapolis, Indiana, August 27th–September 1st, 1917. Headquarters at the Claypool Hotel.

President, Mrs. E. A. Ruddiman, of Nashville, Tennessee, will preside. The local committee is making every effort to provide ample entertainment. A large number of new members have been enrolled. Indications are that the convention in Indianapolis will be well attended and of great interest.

The officers of the Section will be present to welcome the members at the first meeting. An interesting and instructive literary program will be presented. A number of social

features will furnish entertainment for those in attendance. All women who are members of the American Pharmaceutical Association, also all women of the families of members of the A. Ph. A. are most cordially urged to be present.

Kindly write the Secretary, Mrs. Jean M'Kee Kenaston, Bonesteel, South Dakota, at your earliest convenience, giving name and address that your name be listed with the membership of the Women's Section, A. Ph. A.

AMERICAN CONFERENCE OF PHARMACEUTICAL FACULTIES.

The following communications have passed between the War Department and the American Conference of Pharmaceutical Faculties, and are of interest:

His Excellency, May 1, 1917.

PRESIDENT WOODROW WILSON,
Washington, D. C.

Mr. President: The Executive Committee of the American Conference of Pharmaceutical Faculties, representing forty-three leading Colleges of Pharmacy of the United States, has authorized me to inform you that the services of the schools belonging to this Conference are at your command. This organization wishes to render to the country any and every possible service. Some of the special services which these schools can render are suggested below.

1. The manufacture of pharmaceutical preparations, official or non-official, in such quantities as the Government needs.

2. The microscopical and chemical examination of purchases of crude drugs, for the purpose of identification, and the detection of adulterations.

3. The physiological and chemical standardization of medicinal products.

4. The manufacture of medicinal synthetics.

5. The chemical, microscopical, and bacteriological examination of food-stuffs.

6. The supplying of crude medicinal plants, such as digitalis and belladonna, which are now on hand, or are now growing in our drug plant gardens. The latter will be available this Fall.

7. The growing of crude drugs upon a larger scale than is now attempted, and the supplying of information or of trained men to those who wish to engage in the cultivation of medicinal plants.

Respectfully yours,

RUFUS A. LYMAN,
President of American Conference of
Pharmaceutical Faculties.

WAR DEPARTMENT,
OFFICE OF THE SURGEON-GENERAL,

Washington, May 16, 1917.

PROFESSOR RUFUS A. LYMAN,

President, American Conference of Pharmaceutical Faculties, University of Nebraska, Lincoln, Neb.

Dear Sir: The Surgeon-General directs me to acknowledge the receipt of your letter of the 1st inst., addressed to the President, tendering the good offices of your Conference to the United States, and so far as the Army is concerned to express the appreciation of the Department for the same.

The Medical Department will not hesitate to avail itself of your patriotic offer as occasion therefor arises and expects at an early date to take advantage of so much of it as relates to the microscopical and chemical examination of drugs purchased.

Very sincerely,

H. E. FISHER,
Lt. Colonel, Medical Corps.
B. B. S.

AMERICAN ASSOCIATION OF PHARMACEUTICAL CHEMISTS.

The American Association of Pharmaceutical Chemists, at its Atlantic City convention during the second week of June, passed resolutions against the use of heroin in drug preparations. The members tendered their full resources and personal services to the Government in the war emergency. French Lick Springs was selected for next year's convention. Officers were elected as follows:

President, Dr. W. C. Abbott, Chicago; *First Vice-President*, Henry Hoonan, New York; *Second Vice-President*, G. C. Pratt, Philadelphia; *Secretary-Treasurer*, Dr. C. H. Searle, Chicago; *Directors*—J. W. Haynie, Columbus; B. L. Maltbie, Newark; F. L. M. Nason, Boston; and E. S. Holt, Cedar Rapids, Iowa.

NEW OFFICERS ELECTED BY AMERICAN MEDICAL ASSOCIATION.

At the closing session of the American Medical Association in New York City, Chicago was chosen as the next meeting place, and the following officers were elected:

President, Dr. Arthur D. Bevan, Chicago; *First Vice-President*, Dr. E. H. Bradford, Boston; *Second Vice-President*, Dr. John McMillan, United States Public Health Service; *Third Vice-President*, Dr. Lawrence

Litchfield, Pittsburgh; *Fourth Vice-President*, Major Holman Taylor, U. S. A.; *Secretary*, Dr. Alexander A. Craig, Philadelphia; *Treasurer*, Dr. W. A. Pusey, Chicago; *Chairman House of Delegates*, Dr. Hubert Work, Pueblo, Colo.



DR. CHARLES H. MAYO, ROCHESTER.

Dr. Charles Horace Mayo is the president of this year. The degree of Doctor of Science was conferred upon him by Princeton University. Dr. Mayo is the joint endower and director with his brother of the Mayo Foundation for Medical Education and Research; winner of the Nobel prize for his success in suturing blood vessels and transferring living organs from one animal to another; one of the best technicians in his art.

STATE PHARMACEUTICAL ASSOCIATIONS.

The reports from various state associations indicate a general good attendance at their annual meetings, and all of them evidence more than usual interest. This was in a way stimulated by the trade conditions and the contemplated taxation by Congress of many important articles entering into dispensing and manufacturing and also of finished products. The indications are at this time that instead of the stamp tax on patent medicines, the manufacturers will be assessed. The tax on alcohol will certainly be increased. Loyalty was pledged the government. There

was considerable discussion of the question of having representation on the Advisory Commission to the National Council for Defense, and the organization of a pharmaceutical corps in the U. S. Army. Practically every association endorsed both propositions. The usual number of papers were presented, many of them dealing with educational measures and subjects relating to the Pharmacopoeia and National Formulary. The accessions to the membership averaged fairly well; in some instances special inducements were offered or stronger efforts made, resulting in larger additions, while in a few instances extraordinary efforts put forth last year showed in somewhat fewer additions this year. Arkansas, Mississippi and Tennessee held joint sessions and also separate meeting for transaction of their association affairs and election of officers. It is contemplated to hold a tri-state meeting in 1919. Next year the respective conventions will be held in their home states.

To these general statements, only a little more mention, than naming the new officers, will be made.

ARKANSAS.

Arkansas participated in the Tri-State meeting held in Memphis, Tenn., June 12-14. The sessions were presided over by E. V. Sheelly, of Memphis, president of the Tri-State Association, who was assisted by President W. R. Appleton, of the Arkansas Association, Vice-President C. F. Waites of the Mississippi Association, and President D. J. Kuhn, of the Tennessee Association. H. B. Mayer and T. A. Robinson, both of Memphis, were, respectively, secretary and treasurer of the joint organization.

The Arkansas Association of Pharmacists elected the following officers: *President*, Dr. Jesse Hodges, of Little Rock; *Vice-Presidents*, W. C. Hogan, of Atkins, and J. E. Paris, of Paragould; *Secretary-Treasurer*, Miss Mary A. Fein, of Little Rock; and *Chairman of the Executive Committee*, Bruce Greeson, of Conway.

Little Rock was selected as the 1918 meeting place.

CALIFORNIA.

The California Pharmaceutical Association elected the following officers: *President*, W. B. Philip, of Oakland; *Vice-Presidents*, F. A. Gardner, of Riverside; P. T. Hahman, of Santa Rosa; *Secretary-Treasurer*, E. A. Henderson, of Los Angeles; *Members of the Execu-*

live Committee, O. V. McCracken, of Berkeley; K. B. Bowerman, of San Francisco; W. R. Dickinson, of Los Angeles; F. B. Taylor, of Oakland; J. A. Sanford, of Stockton; E. G. Binz, of Los Angeles; and D. R. Rees, of San Francisco.

San Diego was selected as the place for the 1918 meeting.

DELAWARE.

The Delaware Pharmaceutical Society held their convention in Wilmington. The following are the new officers: *President*, H. C. Culver, of Middletown; *Vice-Presidents*, G. W. Rhoades, of Newark; H. K. McDaniel, of Dover, and R. M. Cauffman, of Seaford; *Secretary*, Miss Nora V. Brendle, of Wilmington; *Treasurer*, O. C. Draper, of Wilmington; *Members of the Executive Committee*, J. T. Challenger, of New Castle, N. B. Danforth, of Wilmington; H. C. Culver, of Middletown; W. H. Chambers, of Lewes, and C. B. Swayne, of Smyrna.

FLORIDA.

The Florida Pharmaceutical Association convened at Atlantic Beach, Jacksonville, June 13th. The matter of providing a tri-state meeting with Georgia and Alabama was discussed.

Officers were elected as follows: *President*, W. A. Rawls, of Pensacola; *Vice-Presidents*, W. G. Perry, of Miami; J. S. Jewett, of Lakeland, and J. R. Johnson, of Monticello; *Secretary-Treasurer*, J. H. Haughton, of Palatka.

Tampa was selected as the meeting place for next year.

ILLINOIS.

The Illinois Pharmaceutical Association met at Springfield, June 19-22. One of the addresses before the convention was "Compulsory Health Insurance and What It Means to the Pharmacist," by Dr. J. H. Beal. The officers elected are as follows: *President*, Byron Armstrong, of Jacksonville; *Vice-Presidents*, J. Robert Phillips, of Springfield; Frank J. Dubsky, of Chicago, and John C. Wheatcroft, of Grayville; *Secretary*, W. B. Day, of Chicago, and *Treasurer*, Chris. Garver, of Bloomington.

INDIANA.

The Indiana Pharmaceutical Association convened at Lake Wawasee, June 19-21. Among other interesting addresses, Dr. J. N. Hurty spoke on "The Pharmacist and What

He Can do to Advance the Public Health." The officers elected, follow: *President*, William F. Rudder, of Salem; *Vice-Presidents*, Dwight Hawks, of Goshen; J. Lovett, of Huntington, and F. M. Best, of Lafayette; *Secretary*, William F. Werner, of Indianapolis; *Treasurer*, Frank H. Carter, of Indianapolis; *Member of the Executive Committee*, Bruno Knoefel, of New Albany.

IOWA.

Iowa Pharmaceutical Association convened in Dubuque, June 18th. A subject of considerable consideration was the success of the prerequisite in Iowa. The following officers were elected: *President*, Thomas Watts, of Holstein; *Vice-Presidents*, J. B. Becker, of Dubuque; George Judisch, of Ames, and P. W. Dowds, of Guthrie Center; *Treasurer*, J. M. Lindley, of Winfield; *Secretary*, Al. Falkenhainer, of Algona. Fort Dodge was selected as the place of meeting in February, 1918.

KANSAS.

Kansas Pharmaceutical Association met at Topeka, May 15-17. A state law was proposed for automatically making every registered pharmacist a member of the Association.

Officers were elected as follows: *President*, W. S. Henrion, of Wichita; *Vice-Presidents*, J. F. Tilford, of Wichita, and Joseph DeMain, of Macksville; *Secretary*, D. von Riesen, of Marysville (re-elected); *Assistant Secretary*, J. M. Brunt, of Topeka (re-elected); *Treasurer*, John Schmitter, of Gypsum (re-elected); *Chairman of the Legislative Committee*, Harry Dick, of Lawrence; *Librarian*, L. E. Sayre, of Lawrence.

Kansas City was selected as the 1918 meeting place.

MICHIGAN.

The Michigan Pharmaceutical Association convened at Grand Rapids, June 19-21, and enlisted 117 new members. Wilhelm Bode-mann spoke of telephone matters, while Otto E. Bruder advocated propaganda of N. F. and U. S. P. preparations. The officers elect are: *President*, P. A. Snowman, of Lapeer; *Vice-Presidents*, Dwight Miller, of Union City; Axel Durelman, of Hancock; *Secretary* Wheaton and *Treasurer* Paulkener were re-elected; *Members of the Executive Committee*, J. A. Skinner, of Cedar Springs, and D. G. Look, of Lowell; *Trustees of the Prescott Memorial Fund*, L. A. Seltzer, C. F. Mann and J. W. T. Knox, all of Detroit.

MISSISSIPPI.

The meeting of Mississippi Pharmaceutical Association was held in Memphis, Tenn. On account of the absence of President G. C. Kendall, Professor H. M. Faser, an ex-president of the Association, presided. The Association provided a fund for the maintenance of a French war orphan.

Officers were elected as follows: *President*, J. A. Beard, of McComb; *Vice-Presidents*, L. C. Brown, of Rosedale; W. J. Cox, of Batesville; *Secretary-Treasurer*, Miss Flora Scarborough, of Laurel; *Members of the Executive Committee*, G. C. Kendall, of Meridian, W. M. Gillespie, of Charleston, and R. E. Ousley, of Kosciusko.

The 1918 meeting will be held at Gulfport.

MISSOURI.

The Missouri Pharmaceutical Association met in Elms Hotel, Excelsior Springs, June 11-16. In recognition of the twenty-five years of service of Secretary Whelpley, which also corresponded to the years of married life of Dr. and Mrs. H. M. Whelpley, the Association presented them with an elegant silver service.

Officers for 1917-18 were elected as follows: *President*, Henry D. Llewellyn, Mexico; *First Vice-President*, Minnie M. Whitney, Kansas City; *Second Vice-President*, A. C. Smith, Carrollton; *Third Vice-President*, F. E. Long, St. Joseph; *Permanent Secretary*, H. M. Whelpley, St. Louis; *Treasurer*, Wm. Mittelbach, Boonville; *Assistant Secretary*, C. H. McDonald, Rocky Comfort; *Local Secretary*, R. S. Ford, Excelsior Springs; *Council*—A. M. Howard (*chairman*), Excelsior Springs; Dr. Otto F. Claus (*vice-chairman*), St. Louis; Prof. D. V. Whitney (*secretary*), Kansas City; O. J. Cloughly, St. Louis; John T. Davis, Hannibal.

The 1918 meeting of the Missouri Ph. A. will be held at the Elms Hotel, Excelsior Springs, June 11, 12, 13, and 14.

NEW JERSEY.

The New Jersey Pharmaceutical Association held their sessions in Hotel Breslin, Lake Hopatcong, June 12-15. Prof. Henry Kraemer gave an illustrated lecture on "The Use of the Microscope in the Drug Store Laboratory." Professors F. J. Wulling and H. V. Army were elected to honorary membership in the Association. The following are the new officers: *President*, Adolph F. Marquier, of Newark; *Vice-Presidents*, George M. Beringer, Jr., of Camden, and Leon A. Taylor, of Lakewood; *Secretary*, Jeannot Hostmann, of Hoboken; *Treasurer*, Edgar R. Sparks, of

Burlington. The next meeting will be held at Spring Lake, and Daniel H. Hills was elected local secretary.

NEW YORK.

The New York Pharmaceutical Association met at Richfield Springs, June 19-22. Professional recognition of pharmacists received much consideration, and also discussion of state and federal narcotic laws. A donation was made to the American Red Cross Society.

The following were elected officers for the ensuing year: *President*, Richard A. Austin, of Cairo; *Vice-Presidents*, Henry B. Smith, of Brooklyn; Orrin O. Biglow, of Richfield Springs; Robert S. Lehman, of New York City; *Secretary*, Edward S. Dawson, of Syracuse; *Treasurer*, Frank Richardson, of Cambridge.

The next annual convention is to be held at the Catskill Mountain House.

PENNSYLVANIA.

The Pennsylvania Pharmaceutical Association held their sessions in Hotel Schenley, Pittsburgh. The coöperation of the Association was offered to the State in mobilizing the Nation's resources. Matters of historical interest were offered to the American Pharmaceutical Association. Revision of the U. S. Patent and Trade Mark Laws was advised. A quarterly publication is to be issued by the Association. President F. J. Wulling, of the American Pharmaceutical Association, was elected an honorary member. The prize for the best paper at last convention was awarded to Joseph L. Lemberger, for his paper on "The Cultivation of Castor Oil Plant as a Commercial Possibility." The following officers were elected: *President*, W. H. Knoepfel, of Scranton; *Vice-Presidents*, Peter G. Walter, of Pittsburgh, and G. W. Shoemaker, of Allentown; *Treasurer*, F. H. E. Gleim, of Lebanon; *Secretary*, Robert P. Fischelis, of Philadelphia; *Assistant Secretary*, Dr. A. F. Judd, of Pittsburgh; *Local Secretary*, Louis Frank, of Wilkes-Barre.

TENNESSEE.

Tennessee Pharmaceutical Association met in Memphis, and this city also entertained the Arkansas and Mississippi Associations. Provisions were made for contributing to the support of two French war orphans for one year.

The Association elected the following officers: *President*, H. B. Mayer, of Memphis; *Vice-Presidents*, J. G. Ingles, of South Pittsburgh, and H. C. Mason, of Smithfield; *Secretary*, T. J. Shannon, of Sharon; *Treasurer*, J. B. Sand, of Nashville.

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of the change of address is received before shipment or mailing.

Both the old and the new address should be given thus:

HENRY MILTON,

From 2342 Albion Place, St. Louis, Mo.

To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

CHANGE OF ADDRESSES SINCE MAY 18, 1917.

MERNER, P. M.,

From 6 S. Frederick St., Oelwein, Ia.

To 137 W. 16th St., New York, N. Y.

MCNEILL, WM. H.,

From River and Straight Sts., Paterson,

N. J.

To Main and Jefferson, Passaic, N. J.

McKELLIPS, C. M.,

From Northwestern Coll. of Pharm. and
Dentistry, Portland, Ore.

To care North Pacific Coll., Portland, Ore.

ORTIZ, A., DR.

From Havana, Cuba.

To Residence Unknown.

DONNET, JOHN S.,

From 1225 Hull St., Baltimore, Md.

To 1442 E. Fort Ave., Baltimore, Md.

GARDNER, H. W.,

From 1547 Capouse Ave., Scranton, Pa.

To 214 Kipp Ave., Hasbrouck Heights,
N. J.

FINLEY, L. B.,

From care Bur. of Med. and Surgery, Navy
Dept., Washington, D. C.,

To Headquarters, Gendarmerie d'Haiti, Port
au Prince, Haiti.

HENSKE, WM.,

From 10525 Wilbur Ave., Cleveland, Ohio.

To 10516 Wilbur Ave., Cleveland, Ohio.

JUDD, A. F.,

From Pittsburgh Coll. of Pharm., Pitts-
burgh, Pa.

To Bluff and Pride, Pittsburgh, Pa.

RAUSCHFLEISCH, E. O.,

From 13419 Euclid Ave., Cleveland, Ohio.

To 13427 Euclid Ave., Cleveland, Ohio.

BLOOMFIELD, I. B.,

From 1638 N. 8th St., Philadelphia, Pa.

To 15th and Potter Sts., Chester, Pa.

DECEASED SINCE MAY 18, 1917.

GORDON, F. T., Philadelphia, Pa.

PEARSON, J. F., Annapolis, Md.

BOOK NOTICES AND REVIEWS.

Abstract of the Census of Manufacturers. Department of Commerce, Bureau of the Census, Washington. The Abstract of the Census of Manufacturers has just been issued by the Bureau of the Census. This inquiry, which related to the calendar year 1914, was made in 1915, and the primary or fundamental data derived from it, together with some details as to kinds and quantities of the various classes of products, were issued some time ago in the form of several series of press summaries which were published, in whole or in part, in many newspapers and periodicals. The Abstract presents, in convenient form, with an alphabetical index, all the information

that will be needed by the great majority of persons who have use for the manufacturers statistics. It gives, for 340 separate manufacturing industries, statistics relating to number, size, and character of ownership of establishments, and states in which located; proprietors, officials, salaried employees, and wage earners, classified according to sex and, in the case of wage earners, according to whether 16 years of age or over, or under that age; salaries and wages paid; power used; fuel consumed; cost of materials; value of products; quantities of principal products; and various other items. Statistics somewhat similar in scope but in less detail are given,

with reference to all industries combined, for each state and geographic division and for each of the leading 130 cities.

The Abstract, which is issued in the form of a 722-page volume 9½ by 6¼ inches in size, bound in cloth, is not for free distribution, but may be obtained by purchase from the Superintendent of Documents, Government Printing Office, at 65 cents per copy.

Pituitary Standardization. Studies from the Research Laboratory, Parke, Davis, & Co. Reprint No. 103, 1916. By H. C. Hamilton and L. W. Rowe.

Proceedings of the Thirty-Eighth Annual Meeting of the Missouri Pharmaceutical Association, held at Excelsior Springs, June 13-16, 1916.

UNITED STATES PUBLIC HEALTH SERVICE.

List of changes of duties and stations of commissioned and other officers of the United States Public Health Service for the seven days ended June 6, 1917.

Phar. F. L. Brown. Relieved at Reedy Island Quarantine Station and proceed to Philadelphia, Pa., for duty. May 31, 1917.

Phar. J. V. LaGrange. Granted 1 day's leave of absence, June 5, 1917. June 4, 1917.

Phar. F. S. Goodman. Proceed from Tampa Bay Quarantine Station not oftener than once each week on official business. June 11, 1917.

Epidemiologist A. W. Freeman. Granted 3 days' leave of absence enroute under orders of June 4, 1917. June 8, 1917.

Sanitary Inspector William Pryor. Proceed to San Francisco Quarantine Station to observe methods of fumigating by cyanide gas. June 11, 1917.

PROMOTION.

Phar. William G. Beucler. Promoted and appointed Pharmacist of the Second Class, effective December 27, 1916. June 11, 1917.

PHARMACISTS IN THE R. A. M. C.

The Pharmaceutical Society is to be commended on the action taken regarding the utilization of pharmacists, as such, in the R. A. M. C. The military authorities' reply is not, however, to be regarded as altogether satisfactory, for, on reference to *The Pharmaceutical Journal*, we frequently find the statement that "recruiting for the R. A. M. C. is closed." It is common knowledge that pharmaceutical work in our Army is frequently allotted to persons who possess no statutory civil qualification in pharmacy. As to the accepting only of men with a low medical classification—agreed that fighting men are needed urgently—I have yet to learn that any medical man classified for general service has, on this account, been sent as a combatant and his medical work handed over to a person not on the medical register. I am convinced that this question of the proper use of pharmacists, with a corresponding status in our army medical scheme, is one of the matters which should *not* be left until "after the war." It is to be hoped that the new Pharmaceutical Council will continue to press the Army authorities on the subject. Don't expect the Pharmaceutical Society to work a miracle; but let every pharmacist use his influence, when and where there is opportunity, with Members of Parliament and others to prove the justice of our claims for recognition. If H. M. Prison Commissioners demand a pharmaceutical qualification of the dispenser compounding medicines for inmates of convict prisons, surely our Army authorities must eventually agree that sick and wounded soldiers are, at any rate, *equally* deserving of the best pharmaceutical service available.

Geo. W. Gibson, in *Chemist and Druggist*.

London, N. W. 1, May 7, 1917.

JOURNAL ANNOUNCEMENTS.

Subscriptions: Annual subscriptions in advance, including postage: United States and Mexico, \$4.00; Canada, \$4.35; foreign countries, \$4.50. Single copies, 35 cents. Remittances should be made payable to Treasurer H. M. Whelpley, but mailed to JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, Easton, Pa., or 253 Bourse Building, Philadelphia, Pa. Under the rules of the Post Office the JOURNAL can be regularly mailed only to bona-fide paid subscribers.

Requests for Back and Missing Numbers: Requests for back and missing numbers should be sent to the Editor. Claims will not be allowed if sufficient notice has not been given of change of address, and in no case if received later than sixty days from date of issue. Notice of change of address should give old and new address.

Contributions: The JOURNAL accepts no responsibility for the opinion of its contributors. Contributions should be sent to the Editor; use only one side of the sheet for writing, and double-space the lines. Articles are accepted for publication on condition that they are contributed solely to this JOURNAL; and "all papers presented to the Association and its Branches shall become the property of the Association, with the understanding that they are not to be published in any other publications than those of the Association, except by consent of the Committee on Publication." (By-Laws, Chapter X, Article 11.)

Reprints: Authors may obtain reprints of the Eschenbach Printing Company, Easton, Pa., at the prices attached to the proof sent

them, provided the order is received with the returned proof. The prices are also given on this page. Otherwise type is distributed as soon as the JOURNAL is printed.

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Membership: Applications for membership in the American Pharmaceutical Association may be made of any of the officials. The annual payment of five dollars covers the annual dues and subscription to the JOURNAL. Members receive, also, the publications of the Association that are distributed free of charge.

Further information will gladly be furnished by any of the officers of the Association and members.

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SHOW YOUR INTEREST IN PHARMACY.

For several months past a request has appeared in the JOURNAL that members indicate whether they desire a cut of the insignia of the Association with name "Member" above, as appended, for their Prescription Blanks. A sufficient number of members have signified their interest and therefore these cuts may now be had by addressing the JOURNAL Office as below.

The cost of single type-cut, including postage, is fifteen cents; when two are ordered at the same time, twenty-eight cents. The charge is simply to cover cost and postage.



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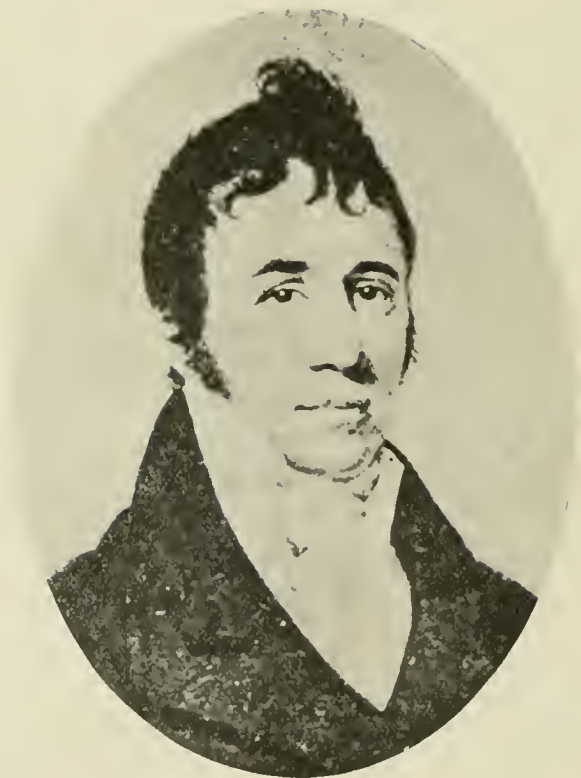
LYMAN SPALDING, M.B., M.D.

Born at Cornish, N. H., June 5, 1775.

Died at Portsmouth, N. H., October 21, 1821.

The Originator of the United States Pharmacopoeia.
(January 6, 1817.)

"To medicine in all its branches he gave his life."



Lyman Spalding

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. VI

AUGUST, 1917

NO. 8

DR. LYMAN SPALDING.—THE FIRST PHARMACOPOEIA OF THE UNITED STATES.

The Historical Introduction in U. S. P. IX begins with these lines (p. V): "In January, 1817, Dr. Lyman Spalding, of New York City, submitted to the Medical Society of the County of New York a project for the formation of a National Pharmacopoeia."

Through the courtesy of Dr. James Alfred Spalding, we are enabled to present the frontispiece of this issue, and some of the data of this writing are taken from a book on the Life of Dr. Lyman Spalding* by his grandson, named above, and published by W. M. Leonard, Boston, 1916.

Lyman Spalding was born June 5, 1775, in Cornish, N. H. His father was Dyer Spalding, born in Plainfield, Conn., November 14, 1732, and his mother, Elizabeth Cady Spalding (nee Parkhurst), born July 7, 1734. It is not the writer's purpose to go into the history of these families, therefore, suffice it to say that Dyer Spalding was a soldier and officer in the Colonial wars and served with General Israel Putnam.

The originator of the National Pharmacopoeia received his first medical instruction of, and for many years worked with, Dr. Nathan Smith, founder of the Medical Schools at Dartmouth, Yale and Bowdoin. After his academic education in Cornish, Lyman Spalding accompanied Dr. Smith in his practice, and in 1794 he entered Harvard Medical School where, in 1797, he was examined for his medical degree, the subject of his thesis being, "On Animal Heat." Dr. Spalding was always a student, and a reference to his further studies nor to his practice and investigations, that would do justice to the subject, cannot be attempted in this sketch. He was lecturer on chemistry and materia medica at the Dartmouth Medical School from 1797 to 1799; lecturer on anatomy and surgery, and president of the Fairfield Medical School from 1810 to 1812, and president of the College of Physicians and Surgeons of the Western District of New York, 1813-1817.

It is of interest that vaccination was introduced during the period of Dr. Spalding's medical practice, and among the practitioners of his day he established a well-deserved reputation as a successful physician and teacher, and the profession profited by his research. He studied drugs and their therapeutic value, and this study made the American Pharmacopoeia possible. The author of the book referred to states, that Dr. Spalding first obtained the idea of a National Pharmacopoeia from Barton's "Collections for an Essay toward a Materia Medica for the United States," read before the Philadelphia Medical Society, February 21,

* Stanhope Press, F. M. Gilson Company, Boston. For the loan of the book we are indebted to W. D. Grace of Portsmouth, N. H., and the Portsmouth Athenæum.

1798. The author also further expresses his opinion that when his grandfather visited in Philadelphia, in 1809, and saw Dr. Barton daily, he conversed with him on the possible chances of ever composing a work so much needed by physicians.

The credit, however, for the U. S. Pharmacopoeia belongs to Dr. Lyman Spalding, for the first edition had its beginning when the needs of a National Pharmacopoeia were set forth by him in a paper read before the New York Medical Society, Monday, January 6, 1817. The committee appointed at that time afterward held meetings at the home of Dr. Spalding, and he unquestionably carried the larger burden and worries of the work, which was concluded when the first edition of the Pharmacopoeia of the United States appeared, December 15, 1820, printed by Wells and Lilly of Boston and copyrighted on the same date by Ewer and Bedlington, Cornhill, Number 51. The final galley proofs of this edition are now in the hands of Dr. James Alfred Spalding. The book has 274 pages and is about 10 by 6 inches in size. The work constitutes an era in the profession and this is the centennial year of its active beginning. It is of interest that the Surgeon General of the U. S. Army, Dr. Joseph Lovell, purchased 96 copies soon after the book was ready for delivery, thus giving his approval of the work.

Quoting the author, "The publication of the Pharmacopoeia was the culminating point in the career of Dr. Spalding, for about the time that the book was issued from the press he was walking along Pearl Street, New York, when he was hit on the head by a box of rubbish falling from a second story window;" from the effects of the injury sustained he never recovered. He left New York for his old home at Portsmouth, arriving there October 17, 1821, and four days later passed away.

A well-known contemporary, Dr. Samuel Latham Mitchell, in announcing his unfeigned regret soon after the death of Dr. Lyman Spalding, said of him: "His mild and amiable character, his ingenuous deportment, and his native zeal and assiduity to maintain the dignity of the profession, and improve its many branches, will cause many to lament the cessation of his labors; but his intimate friends, alone, knew how pure and disinterested were his motives. He was the Original Projector of our National Pharmacopoeia and aided with unremitting diligence in bringing the work to its present form," (1821). E. G. E.

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ACETA MEDICATA.

ACETA MEDICATA.

ACETUM OPII.

℞ Opii libram dimidiam.
Aceti octantes tres.
Myrtice confusæ unciam unam, cum semisse
Croci unciam dimidiam.

Ad spissitudinem idoneam coque; dein adde

Sacchari uncias quatuor;
Cerevisiæ fermenti fluidunciam unam

Digere per septem hebdomadas. dein, collo aperto, donec sit syrupus, expone. Denique effunde, cola, et sassa vitreâ, paulillo sacchari unicuique vasi addito include

ACETUM SCILLÆ.

℞ Scillæ ascatim uncias duas.
Aceti purificati octantes duos cum semisse.
Alcoholis fluiduncias tres.

Macerâ scillam in aceto per decem dies, dein liquorem exprime, cui adde alcohol; et, cum fæces subfederint, parum effunde liquorem.

MEDICATED VINEGARS.

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MEDICATED VINEGARS.

VINEGAR OF OPIUM.

COMMONLY CALLED BLACK DROP.

Take of Opium, half a pound.
Vinegar, three pints.
Nutmeg, bruised, one ounce and a half.
Saffron, half an ounce.

Boil them to a proper consistence, then add

Sugar, four ounces.
Yeast, one fluid ounce.

Digest for seven weeks, then place in the open air until it becomes a syrup; lastly, decant, filter, and bottle it up, adding a little sugar to each bottle.

VINEGAR OF SQUILL.

Take of Squill, dried, two ounces.
Purified vinegar, two pints and a half.
Alcohol, three fluid ounces.

Macerate the squill to the vinegar for ten days; then press out the liquor, to which add the alcohol; and when the drugs have subsided, pour off the clear liquor.

EDITORIAL

E. G. EBERLE, Editor

253 Bourse Bldg., PHILADELPHIA

THE ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

NEVER before in the history of the American Pharmaceutical Association has there been such urgent necessity for a large attendance at an annual convention. Pharmacy has an opportunity, which if grasped speaks for advancement, while indifference or neglect may mean retrogression. The American Medical Association is supporting the efforts of the American Pharmaceutical Association for professional recognition of pharmacists by the Government, and the officials have given a hearing to our representatives. The work has only started, but there has been progress; your officers have been unceasingly at work, have given their time, and now ask that you counsel further with them at the Indianapolis convention.

Narcotic laws have been amended and new ones enacted, and satisfactory control of the traffic in narcotic drugs seems assured, a consummation long hoped for. The results of the legislation will be part of interesting reports. The increasing tax measures, in which every member is vitally interested, will be discussed and your coöperation will unquestionably mean money to you.

You have an interest in the Pharmacopoeia and National Formulary as well as the A. Ph. A. Recipe Book; you should participate in a discussion of these publications and in that way make all of them better and more serviceable. Reports and papers dealing with them constitute part of the programs of several Sections.

The report of the Treasurer for the fiscal year of 1916 will be found in this issue, and the figures are pleasing; you can "do your bit" by bringing in a few additional members; no one should have less than one new application to his or her credit.

The Year Book of the Association has been issued and mailed to the members; the next one is already in preparation.

As every year, many valuable papers will be read before the various Sections, and no matter what phase of the drug business concerns you most, there will be much to interest you. Several illustrated lectures have been provided for.

The House of Delegates this year offers an opportunity to coördinate the ideas that have been developing since its establishment. Every state association, represented by member delegates, will have a voice in providing for the functions so that this body may be of greatest service in bringing them together and for planning their coöperative endeavors.

The invitation to come and participate is largely directed to new members and to those who have never attended a meeting of the American Pharmaceutical Association, for a first attendance almost invariably brings a "repeat order," hence year after year, many of the same faces are seen at the annual meetings, one of the very best endorsements that any association can have. Make your arrangements to come, now.

E. G. E.

THE AMERICAN PHARMACY FAIRCHILD SCHOLARSHIP.

ON account of the very short notice that it was possible to give, only one candidate presented himself for the Fairchild Scholarship examinations held June 25th. It was, therefore, impossible to award the Scholarship; however, an adjourned meeting for further examinations will be held September 26, 1917.

The candidates must be graduates of a four-year high school course and have had two years' drug store experience, and the examinations are to be conducted under joint supervision of a school of pharmacy, belonging to the American Conference of Pharmaceutical Faculties, and of the State Board of Pharmacy. While the dean and president, respectively, have been named for this supervision, it is assumed that they may delegate representatives. The examination questions relate to elementary chemistry, elementary materia medica, practical pharmacy and prescription reading, and elementary business knowledge.

The questions will be supplied to the presidents of the Boards of Pharmacy and the deans of the Colleges of Pharmacy of the American Conference of Pharmaceutical Faculties; such orders must be sent to the editor of the Journal of the American Pharmaceutical Association, 253 Bourse Building, Philadelphia, and be under the seal of the board or college. The candidates' credentials and also the answers to the examination questions must be sent to the editor of the Journal, who will turn them over to a committee for grading them; the answers should bear a mark of identification but not the name of the candidate. The editor is not a member of the latter committee.

The award of the Scholarship will be made on the basis of 70 for the examination record and 30 for the credentials. For further reference to the Scholarship, see p. 440, May 1917, Journal American Pharmaceutical Association.

E. G. E.

THE PHARMACIST'S INTEREST IN PRELIMINARY EDUCATION.

NOTHING means more to the nation than the teacher's work, and this is applicable to every industry and profession, not only in a deductive sense, but specifically. It can as truly be said that the embryo pharmacist is developed under the training of the teacher as that the citizenship is molded under

the same direction. Indifferent teaching, cultivation of careless and slovenly habits of work and thought cannot produce a very high type of citizenship nor do such methods fit the minds for technical school education nor prepare the young men and women to achieve success in business or professional life.

The substance of the thought is not new, only expressed differently than by the words of others, and here to emphasize that pharmacists should give more attention to our schools and that they, as citizens and in the interest of pharmacy, should, in every way possible, assist in shaping the educational system of our public schools. The neglectfulness of citizens generally of this highly important matter is deplorable. Critics are ready to point out deficiencies, but there is a lack of the encouraging spirit which will stimulate more men and women engaged in teaching to greater efficiency in their work; the inducements for persuading those who would perhaps be better qualified for teaching are not to be compared with the opportunities in other lines for capable persons who are determined to succeed, and not in later life become dependents.

If the salaries of teachers are to be based on a scale much lower than for work which requires far less sacrifice and devotion of time, entails less wear on the nervous system, then provision should be made for pensioning teachers after a determined number of years of service. If adequate salaries are paid or assurance made that, on account of lack of opportunity to provide for later years, they are given an annual honorarium, then more who are qualified to teach will select teaching for a vocation and means of livelihood, for, assuredly, the honor of building the characters and assisting in developing the minds of those who become the makers of history and of the industries is attractive and in itself a reward.

Having thus endeavored to pay a tribute to the teachers and acknowledged a duty to them for the important service that they render, reasons will be assigned for some of the statements relative to educational shortcomings and an attempt made to present ideas in that connection which again are not new, in fact have been brought forward for centuries, but like the ideal of all undertakings still remains to be achieved.

More than two hundred years ago, Dr. William Harvey wrote in the preface of one of his works, "Those who, reading the words of authors, do not form sensible images of the things referred to, obtain no true ideas, but conceive false imaginations and inane phantasms." We would go further in drawing conclusions and say that the mind is blurred; worse than useless, the effect is harmful. It is quite generally conceded that much reading for simple gratification and without a purpose to intelligently absorb some of the thoughts embodied is at least valueless. So also studying of subject matter that is not comprehended and without attempting to grasp its meaning weakens both the intellect and memory and gives neither discipline nor content. While it must be admitted that the study

of Greek and Latin, provided the languages are really understood, gives the students mental discipline, the percentage of those who acquire such proficiency is small, and it would be far better if the philosophers and historians were studied in the translations.

Teachers in schools of pharmacy are painfully aware that a large number of their students are not prepared to acquire a knowledge of the subjects they endeavor to teach them. This is especially true in the study of physics and chemistry and even that of the mathematics of pharmacy. There is a deficiency somewhere in the system of school education; the interest of the pupils is not sufficiently excited to an understanding that enables them to thoroughly apply the knowledge. There must be a lack of meaning to them in what is taught, however potent the system may be for disciplining the mind.

Books are necessary as guides; as references, they contain the authors' analyses of the subjects presented, but to make this information available to the young minds, teachers must emphasize the meaning, explain the underlying reasons, elucidate the reasoning of the analysis which the author seeks to convey. Discipline of the mind by studies is necessary but they are in a degree meaningless, or at least have not the value needed for active life unless the words and symbols are available for summarizing experiences—develop reasoning, encourage analysis—stimuli that compel action. Herein is probably the difficulty—that which is studied is not comprehended, it does not “electrify.” There is too much memorizing and as a result when a known subject is presented in a somewhat different way there arises a confusion in the minds of the pupils, followed by a resort to guess. The subjects should be so taught that the rule, the words or the symbols are essential as a means of instruction; by themselves inane, valueless, unless they are true measures and their purposes fully comprehended—the intelligent application is the important thing, whether this is concerned with history, mathematics, chemistry or any other study. The thought that we are endeavoring to impress has been expressed in this way by another, “the value of any fact or theory as bearing on human activities, in the long run, is determined by practical application—that is, by using it for accomplishing some definite purpose.” There must not only be a knowledge of the subject but an intelligence to apply it.

A large percentage of the students coming to schools of pharmacy are not prepared to apply the essence of the rules of simple mathematics in actual pharmaceutical practice, and the students are exceptional who can utilize their preliminary studies of physics and chemistry in the laboratory, in fact, the learning they have often discourages them to such an extent that chemistry which should be of the liveliest interest is a subject feared by many. They have studied it bookishly instead of practically; they have been deprived of opportunities; their minds have been loaded with material that is of little or no value. It is not said that the

courses in colleges of pharmacy are perfect by any means, but the methods of teaching in public schools are under consideration.

Huxley said, "The great end of life is not knowledge but action. What men need is as much knowledge as they can assimilate and organize into a basis for action; give them more and it may become injurious." This carries only part of the thought we seek to awaken; the other is that if the methods of communicating knowledge were not at fault the energy and time given in an educational course, not overburdened with valueless material, would be productive of better results. The value of the sciences is derived from such knowledge of them that makes them available in practice.

Dr. Nicholas Murray Butler has said, "the first question to be asked in any course of study is, 'Does it lead to a knowledge of our contemporary education?' If not, it is neither efficient nor liberal."

Professor John M. Gillette has made this statement, "I have no hesitancy in declaring that the first and foremost duty of society, through the agency of schools, is to make every boy and girl fit to make a living by means of some special knowledge or skill which society has need of."

The teacher can only efficiently instruct in those branches with which he or she is thoroughly familiar. This preparedness characterizes the teacher who makes the subject interesting and speaks for successful teaching. In order to prepare students for the technical and professional schools, teachers must familiarize themselves with the needs of the trades and professions; not unless they have taught the fundamental branches so that the students can make intelligent use of the knowledge, have the teachers performed their duty to them.

Huxley in an address on *Science and Art in Relation to Education*, said, "to teach the elements of any subject requires most careful consideration, if you are a master of the subject; and if you are not a master of it, it is needful you should familiarize yourself with so much as you are called upon to teach—soak yourself in it, so to speak—until you know it as a part of your daily life and daily knowledge, and then you will be able to teach anybody."

Frederick M. Davenport has well said, "Let none suppose that any crowd of American college boys ever sat for one year or two years at the feet of a college professor without knowing the substance of that man. There is nothing human that I know of so near the infallible as the final estimate that college men put upon an instructor. His foibles they know. If he is sound at the core they know it; if he is not, they know that. No college professor ever got away from the real judgment of his own boys, though he may have fled to the uttermost parts of the sea."

The mind of the scholar should be brought into direct relation with fact, not merely be told a thing but made to see it by his own intellect and ability that the thing is so and not otherwise. Using the words of Abraham Flexner for this thought (*Atlantic Monthly*, April 1917), "Science, literature, history, modern languages, industrial processes would be taught *because* they answer the questions which live people ask and can be led to ask or *because* they in their substance minister to our

needs, capacities or aspirations—taught, that is, because they *serve* purposes and in order that they *may* serve purposes.”

Aside from the interest every citizen has in schools, pharmacists are concerned in educational systems that prepare the youth so that they can readily apply that which they have been taught in a practical way, in business life, and the schools of pharmacy will show better results if the preliminary education and training has made the students observant and developed in them an analytical mind, a conception that education is not for the mere sake of acquiring knowledge but also for making good use of it.

The instillation of the disciplinary purpose of study is often so strongly fixed in the minds of students that even those who attend schools of pharmacy fail to realize that their laboratory work here is for the purpose of making them proficient and that they will do just this kind of work when they actively engage in the drug business. Indeed a very large percentage of the graduates experience a relief when their College days are over, and thereafter do not make that wider and practical application of what they have been taught in the sciences underlying pharmacy for which they presumably gave their time, study and money while at school. As before they entered college they seem to be willing to let others do their thinking and investigating; their knowledge of pharmacognosy and chemistry is largely neglected instead of being put to practical use. There is a constant proclaim that “commercial” pharmacy is the important thing when really the commercial value of the sciences taught in the schools of pharmacy is largely overlooked as an integral, instead of utilizing the knowledge thereof in work that can be, and is by others, made to bring financial returns and at the same time gives a professional standing to the pharmacist.

But the message is a call to the pharmacists to exhibit a deeper interest in the movement for more efficient educational methods which mean so much in developing a citizenship that can industrially and intelligently compete with that of other nations. More than ever before have the educational methods of European countries been studied, and we do know their educational systems, that are closely linked with manufacturing and agricultural interests and the professional lines, have made their existence, if not their past prosperity, possible.

The preliminary educational demands of schools of pharmacy, even when measured in counts and points, may mean very little; mental discipline is important, but certainly the value of such preliminary education depends also on whether the methods pursued in mathematics and science studies are compatible or will blend with those of the pharmacy schools, or whether they are impracticable and useless, if not disadvantageous, for the students of pharmacy.

There is probably no item of the expense budget of a state more closely trimmed than that for educational purposes, and still if the money is properly used it con-

stitutes the best permanent growing investment states can make and no state funds can be more equitably distributed; perhaps "equitably" is not the proper term, for the smallest tax-payer has an equal share and more frequently a larger one than those who pay most. Municipalities wrangle over the salaries paid to teachers, whereas the contention should be for the limit, a desire to advance them year by year as the teachers develop their efficiency, so that the best qualified will seek this important service as life-work.

Let us take a deeper interest, not only in schools of pharmacy but all educational institutions and promotions, for such earnest endeavors stimulate progress, make our lives of greater value to ourselves and others.

E. G. E.

To the Editor of the Journal of the American Pharmaceutical Association:

In the July number of the JOURNAL (page 617) appears an article on the analysis of camphor liniment by L. F. Kebler, and collaborators. The method (heating and polariscopic) in general is the same as that used in this laboratory since 1913. To obtain the best results the liniment should be weighed in a tared flat bottom platinum dish and heated at 110° C. for 90 minutes. Heating in platinum requires just half of the time required for porcelain; 110° C. was found sufficient to volatilize all the camphor, without causing any decomposition of the cottonseed oil, while at 150° C. a slight decomposition of the oil was noted. It is necessary that the oven be ventilated to permit the camphor vapor to escape, or the time required for heating will be lengthened, due to the air in the oven becoming saturated with camphor.

This heating method, together with the determination of the rotation of the liniment in a 200 mm. tube was recommended to the U. S. P. IX Revision Committee but was rejected; and the laborious and impracticable method now official was adopted.

C. O. MILLER, *Asst. Chemist.*

LABORATORY, MARYLAND DEPARTMENT OF HEALTH,
BALTIMORE, MD., July 27, 1917.

PAPERS READ BEFORE THE BRANCHES OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

THE QUALITY OF SOME DRUGS AVAILABLE ON THE MARKET AND PURCHASED ON PRESCRIPTION, WITH METHODS OF ANALYSIS.*

BY L. F. KEBLER with the collaboration of W. O. EMERY, E. C. MERRILL, A. G. MURRAY,
E. K. NELSON, S. PALKIN, B. H. ST. JOHN, G. C. SPENCER AND C. D. WRIGHT.

SOAP LINIMENT.

METHODS OF ANALYSIS.

Camphor.—Make a standard soap liniment and determine the optical rotation in a 200 mm. tube at a convenient temperature. Optical rotation about $+10.7^{\circ}$ sugar scale in a 200 mm. tube at 25° C.

Determine the optical rotation of the sample under consideration at the same temperature. Multiply the rotation of the sample by 4.5 and divide by the rotation of the standard. The result will be grammes of camphor per 100 mils of the sample.

Alcohol.—Introduce 25 mils into a suitable distillation flask, dilute with an equal volume of water and a sufficient amount of a 10% solution of calcium chloride to disintegrate the soap, then make the volume up to about 75 mils with water, mix and distil slowly, so as to avoid loss, about 50 mils into a 200 mil separatory funnel. Saturate the distillate with common salt and shake out with two 15 mil portions of petroleum ether. The remaining portion of the operation is carried out as directed for alcohol under Paregoric.

Summary of Analysis.—Seventy-seven samples were examined, 56, or 73% came within a 20% variation. A number of the samples were woefully deficient in camphor.

Comments.—Soap Liniment contains one percent of oil of rosemary which according to 8th rev. U. S. Pharmacopoeia is optically dextrogyrate up to $+15^{\circ}$ angular rotation in a 100 mm. tube at 25° C. In estimating camphor this point is of little practical value, excepting in doubtful cases when it should be taken into consideration.

SPIRIT OF CAMPHOR.

METHODS OF ANALYSIS.

Camphor.—Make a standard solution by dissolving 10 Gm. of dry camphor in enough U. S. P. alcohol to make 100 mils.

Determine the optical rotations of the sample and standard in a 200 mm. tube at the same temperature. Multiply the rotation of the sample by 10 and divide by the rotation of the standard. The result expresses the number of grams of camphor in 100 mils of the sample.

Alcohol.—Introduce 25 mils into a separatory funnel, add 50 mils of water, saturate with sodium chloride and extract with three successive portions of petroleum ether. Transfer the hydro-alcoholic salt solution to a distillation flask, wash the petroleum ether with successive portions—20, and 5 mils of saturated salt solution, transfer to distillation flask, and distil until 50 mils of distillate are obtained. Determine the alcohol in the usual way. The percent of alcohol contained in the distillate is one-half that present in the original material.

Summary of Analysis.—Forty-four samples were examined; 19, or 43% came within 10% of the standard; 23, or 52% came within 15%; and 27, or 61% came

* Concluded from p. 621. July issue.

within 20%. The deviations exceeding 20% were in some instances very great. One contained only about one-fourth the amount of camphor called for; one was double strength; and two exceeded even this amount.

Comments.—Spirit of camphor is an extremely simple drug, easily prepared, and it is therefore difficult to explain the divergencies referred to above.

The optical rotation of standard spirits of camphor was found to be $+24.7^\circ$ (sugar scale) in a 200 mm. tube at 25°C .

The rotation of an alcoholic solution of camphor varies somewhat with the concentration of alcohol and camphor. Landolt found the specific rotation of camphor in alcoholic solution to vary from 42.806° in 10% solution to 50.801° in 50% solution, in a 100 mm. tube at 20°C .

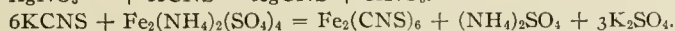
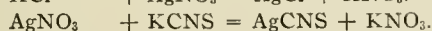
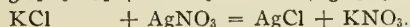
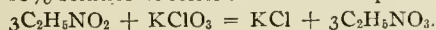
Hence the results obtained are strictly comparable only when the percentages of camphor and alcohol are approximately those of the standard solution.

SPIRIT OF NITROUS ETHER.

METHODS OF ANALYSIS.

Ethyl Nitrite.—(a) 8th Rev. U. S. P. Method.

(b) Introduce 5 Gm. of the sample into a 100 mil flask containing 25 mls of water, add 5 mls of a saturated aqueous solution of potassium chlorate and 5 mls of 10% nitric acid, stopper, mix well and allow to stand about one hour; then add an excess of $\frac{N}{10}$ silver nitrate, mix well and titrate back the excess of silver nitrate with $\frac{N}{10}$ potassium sulphocyanate, using about one mil of a 10% solution of ferric ammonium sulphate as indicator.



Each mil of $\frac{N}{10}$ silver nitrate is the equivalent of 0.0225 Gm. of ethyl nitrite.

Alcohol.—Place 25 mls into a suitable sized flask, add 25 mls of a 10% aqueous solution of sodium hydroxide, connect with a reflux condenser and heat for about an hour, cool, add 25 mls of water and submit to distillation; collect 50 mls of the distillate and ascertain the amount of alcohol in the usual way. From the result obtained deduct the amount of alcohol formed in saponifying the ethyl nitrite. Ethyl nitrite yields 61.33% of its weight in alcohol.

Summary of Analysis.—Seventy-nine samples were examined. Of these 45, or 57% failed to come within 20% of the standard; 51, or 64.5% deviated from the standard in excess of 25%. There is certainly room for improvement.

Comments.—The general experience is that there is an excessive amount of low grade spirit of nitrous ether on the market. There is no doubt but that it is one of the drugs most commonly found at variance with the standard. The reasons are undoubtedly manifold. Faulty methods of manufacture are believed to be the chief trouble. Numerous studies have been made on the keeping qualities of this drug.

J. E. Stacy,¹ Farr and Wright,² D. Gilmour,³ G. E. Shaw,⁴ L. A. Brown,⁵ J.

¹ *Proc. Mass. Pharm. Assoc.*, 54, 1899.

² *Trans. Br. Pharm. Conf.*, 447, 1901.

³ *Pharm. J.*, 66, 54, 1901.

⁴ *Ibid.*, 71, 236, 1903.

⁵ *Am. Drug.*, 59, 215, 1911.

R. Rippetoe,⁶ and F. L. Shannon.⁷ The general conclusions arrived at are that spirit of nitrous ether of good quality does not deteriorate materially within a reasonable length of time (six months) if kept in filled, small, amber-colored bottles, in diffused light, at a moderately low temperature. Brown⁵ believes that absolute alcohol as a solvent increases stability.

The 8th Dec. U. S. Pharmacopoeial method for determining the percent of ethyl nitrite in this drug is tedious and time consuming. In order to eliminate this feature in our work the initial examinations were made by the potassium chlorate method and, if a sample was found deficient by this process, it was checked by the official method. The chlorate method for estimating nitrites was first described by F. Dietze,⁸ and further studied by E. Beuttner,⁹ B. Grützner,¹⁰ F. Keppler¹¹ and C. E. Smith.¹² It is thought by some that the results by the method elaborated for spirit of nitrous ether are a trifle high in some cases due to the possible presence of associated products, such as aldehyde, ethyl acetate, etc. Smith's results indicate that the method under ordinary conditions gives data which are neither too high nor too low. O. Herting¹³ described a procedure almost identical to that of Dietze's (1897), fourteen years later (1911). Herting gave 0.0255 Gm. as the $\frac{N}{10}$ silver nitrate equivalent for ethyl nitrite which is incorrect. This incorrect figure, instead of 0.0225 is inadvertently used at times by some in making calculations.

TINCTURE OF IODINE.

METHODS OF ANALYSIS.

Iodine.—The 8th Rev. U. S. P. method.

Potassium Iodide.—(a) Five mls of the tincture are pipetted into a deep tared porcelain crucible and heated on the steam bath in a hood until the alcohol and practically all the iodine are volatilized. The crucible is then heated to a dull red for about a minute for the purpose of expelling the remaining traces of free iodine, cooled and weighed. The residue represents potassium iodide if no other non-volatile matter has been added.

(b) Dissolve the residue obtained in (a) in about 100 mls of water, transfer to a 200 ml beaker and titrate with tenth normal silver nitrate in the usual manner, using from one to two drops of a 10% solution of potassium chromate as indicator.

(c) Dissolve residue under (a) as directed under (b), acidulate with nitric acid, add an excess of $\frac{N}{10}$ silver nitrate to precipitate the iodine as silver iodide; then titrate back the excess of silver nitrate with $\frac{N}{10}$ potassium thiocyanate using about 1 ml of a 10% solution of ferric ammonium sulphate as indicator.

Summary of Analysis.—Sixty-five samples were examined. In the case of iodine, 38, or 58% came within a 10% variation; and 48, or 74% came within a

⁶ *Am. Drug.*, 59, 307, 1911.

⁷ *J. Am. Pharm. Assn.*, 2, 83, 1913.

⁸ *Süd. Apoth. Ztg.*, 37, 305, 1897.

⁹ *Schw. Woc. Pharm. and Chem.*, 35, 545 and 562, 1897.

¹⁰ *Chem. Ztg.*, 21, 308, 1897.

¹¹ *Süd. Apoth. Ztg.*, 38, 484, 1898; *Abstr. Pharm. Ztg.*, 43, 552, 1898.

¹² *Am. J. Pharm.*, 70, 273, 1898.

¹³ *Pharm. Ztg.*, 56, 423, 1911.

15% variation. In the case of potassium iodide 18, or 28% exceeded a 25% limit.

Comments.—It will be noted that a large number of the samples varied materially from the standard either in iodine or potassium iodide content or both. The amount of alcohol present usually came within the working limits.

PREScription A.

Six drachms of potassium iodide dissolved in enough water to make two fluid ounces.

10 mils should contain 3.94 Gm. of potassium iodide.

METHODS OF ANALYSIS.

(a) This being a simple aqueous solution of potassium iodide the potassium iodide can readily be determined by evaporating the water from a given volume in a weighed dish as follows: Pipette 5 mils of the sample into a suitable tared dish and evaporate on the steam bath; finally render anhydrous by heating in the air bath at 110° C. for fifteen minutes, cool and weigh. The residue is potassium iodide if the prescription was correctly filled.

(b) Introduce ten mils, accurately measured, into a 100 mil flask, dilute with distilled water to the mark, remove an aliquot portion, 10 mils, dilute to about 50 mils, acidulate with nitric acid, add an excess of $\frac{N}{10}$ silver nitrate, mix well, and titrate back with $\frac{N}{10}$ potassium sulphocyanate, using about one mil of a 10% solution of ferric ammonium sulphate as indicator. For reactions see potassium iodide under Tincture of Iodine. Each mil of $\frac{N}{10}$ silver nitrate is equivalent to 0.0166 Gm. of potassium iodide.

(c) Determine the refractometric readings by immersing the immersion refractometer directly into the solution at a temperature of 25° C. From the reading on the scale the amount of potassium iodide can readily be found by reference to table below.

Refractometer Readings at 25° C.

Potassium Iodide in Aqueous Solution.

Scale readings.	Gms. per 100 mils.	Scale readings.	Gms. per 100 mils.	Scale readings.	Gms. per 100 mils.	Scale readings.	Gms. per 100 mils.	Scale readings.	Gms. per 100 mils.
		31	5.50	51	11.56	71	17.40	91	23.39
12.4	0.0	32	5.80	52	11.76	72	17.70	92	23.69
13	0.2	33	6.10	53	12.05	73	18.00	93	23.99
14	0.5	34	6.35	54	12.35	74	18.30	94	24.29
15	0.8	35	6.70	55	12.65	75	18.60	95	24.59
16	1.1	36	6.95	56	12.95	76	18.90	96	24.89
17	1.4	37	7.25	57	13.20	77	19.20	97	25.10
18	1.7	38	7.55	58	13.50	78	19.50	98	25.45
19	1.95	39	7.85	59	13.80	79	19.80	99	25.75
20	2.3	40	8.15	60	14.10	80	20.10	100	26.00
21	2.57	41	8.45	61	14.40	81	20.40		
22	2.85	42	8.75	62	14.70	82	20.70		
23	3.15	43	9.00	63	15.00	83	21.00		
24	3.45	44	9.4	64	15.30	84	21.29		
25	3.75	45	9.7	65	15.60	85	21.59		
26	4.05	46	10.00	66	15.90	86	21.89		
27	4.30	47	10.30	67	16.20	87	22.19		
28	4.60	48	10.60	68	16.50	88	22.49		
29	4.90	49	10.90	69	16.80	89	22.79		
30	5.20	50	11.16	70	17.10	90	23.09		

Summary of Analysis.—The prescription was filled by 57 different druggists; six, or 10½% failed to come within a 10% limitation; four contained excessive

amounts, varying from 21 to 29%; and two prescriptions were deficient, one 46%, and the other 81%.

Comments.—This being a simple aqueous solution the results obtained by the immersion refractometer are sufficiently accurate for practical purposes. If undue variation is noted, the result should be checked by method (a) or (b) outlined above, or both.

PRESCRIPTION B.

Acetphenetidin 36 grains, bismuth subnitrate 1 drachm, sodium bicarbonate 2 $\frac{1}{2}$ drachm; mix and make twelve powders.

Each powder should contain 3 grains of acetphenetidin.¹⁴ 5 grains bismuth subnitrate and 10 grains of sodium bicarbonate.

METHOD OF ANALYSIS.

Acetphenetidin.—Place from $\frac{1}{2}$ to 1 Gm. of the finely powdered well mixed material on small, counterpoised filters, one within the other, in a funnel, and treat with successive portions of chloroform until all of the acetphenetidin is removed. From 40 to 60 mils are generally sufficient. The solvent must be carefully applied, best from a pipette, not only to the powder directly, but to the sides and upper edges of the filters. Each addition should be allowed to drain before more solvent is used. When exhausted, wash the stem of the funnel with chloroform, collect the filtrate and washings in a tared Jena or non-sol beaker, evaporate carefully at a slightly elevated temperature or in a current of air until the solvent is apparently dissipated, add 5 mils of ether, evaporate, then heat for 15 minutes at about 100° C., cool in a desiccator and weigh.

Comments.—The ingredients of a mixture of this character should not vary to exceed 20% from the written order. On this basis the deviation was excessive in four instances. Attention should also be called to the fact that acetphenetidin was substituted in two instances by acetanilide, by antipyrin in another, and bismuth subcarbonate was substituted for bismuth subnitrate in one case.

PRESCRIPTION C.

Antipyrin, 24 grains, and 120 grains of sodium bicarbonate, to make one dozen powders.

Each powder should contain two grains of antipyrin and ten grains of sodium bicarbonate.

METHODS OF ANALYSIS.

Antipyrin.—Weigh out on a small (5.5 Cm.) filter an amount of the powdered sample equal to or a multiple of the average weight of one powder, wash with successive small portions of 95% alcohol, in quantity about 20 to 30 mils, sufficient at least to extract all the antipyrin present in the mixture. Collect solvent in a 100 mil Erlenmeyer, add 10 mils of an alcoholic solution of mercuric chloride (5 Gm. in 100 mils 95% alcohol), then run in a standard solution of pure iodine (1.351 Gm. resublimed iodine dissolved in 100 mils 95% alcohol, 1 mil of which is either exactly or approximately equivalent to 10 Mg. pure antipyrin) until a faint yellow coloration persists. The number of mils required to bring about this result, multiplied by the value of 1 mil in terms of antipyrin will give the quantity of this substance present in the sample under examination.

Sodium Bicarbonate.—(a) This chemical can be estimated by direct titration with a standard acid solution, using methyl red as indicator.

(b) The average weight of a powder or a multiple thereof can be incinerated and the residue titrated with normal acid solution, using methyl red as indicator. From the results obtained the amount of sodium bicarbonate can readily be calculated.

¹⁴ Complete analysis of prescriptions was not attempted. Only such ingredients considered necessary to determine whether or not the prescriptions were properly filled, in certain particulars, were estimated.

(c) Introduce into a tared platinum dish the average weight of one powder, add sufficient dilute sulphuric acid to decompose the sodium bicarbonate and submit to ignition; this will convert the sodium bicarbonate into sodium sulphate which can be weighed, and from the results the amount of sodium bicarbonate can be readily determined.

Comments.—The prescriptions examined, excepting in two cases, complied closely with the written instructions. In one instance the amount of antipyrin was considerably excessive, and in another the sodium bicarbonate present was only about one-half that called for.

PRESCRIPTION D.

Two drachms of ammonium bromide dissolved in four fluid ounces of cinnamon water.

The four fluid ounces should contain two drachms of ammonium bromide.

Comments.—With one exception the compounding was satisfactory.

PRESCRIPTION E.

Salol and quinine sulphate, of each 30 grains, put into ten capsules.

Each capsule contains 3 grains each of salol and quinine sulphate.

METHODS OF ANALYSIS.

Salol.—Introduce the average weight of one capsule, or multiple thereof into a separatory funnel containing 25 mls of water, render slightly acid and extract with several successive portions of 15 mls of chloroform; introduce the chloroformic extract into a tared beaker and evaporate with a current of warm air. After the solvent has apparently all been dissipated, the beaker should be introduced into a desiccator and allowed to remain for 24 hours before weighing. From the data obtained from the above procedure the amount of salol can readily be ascertained.

Quinine Sulphate.—Render the acid aqueous solution in the separatory funnel alkaline with either sodium bicarbonate or sodium carbonate, extract the liberated quinine with three successive portions of chloroform, transfer the chloroformic extracts to a suitable sized beaker and evaporate at a low temperature, dissolve the quinine residue in alcohol and titrate with $\frac{N}{20}$ sulphuric acid, using methyl red as indicator. From the results so obtained the amount of quinine sulphate can readily be calculated.

Comments.—Results satisfactory.

PRESCRIPTION F.

Antipyrin, 24 grains and 60 grains of sodium salicylate to be mixed and made into a dozen powders.

Each powder should contain 2 grains of antipyrin and 5 grains of sodium salicylate.

METHODS OF ANALYSIS.

Antipyrin.—Introduce the average weight of a powder, or multiple thereof, into a separatory funnel containing about 25 mls of water and a small amount of sodium bicarbonate; extract the resulting solution with four successive portions of 20 mls of chloroform, transfer the chloroformic extracts into a suitable size beaker, evaporate the chloroform in a current of warm air, dissolve the residue in from 30 to 40 mls of alcohol, then add 10 mls of an alcoholic solution of mercuric chloride (5 Gm. in 100 mls of 95% alcohol) and complete by process given under Prescription C for antipyrin.

Sodium Salicylate.—(a) Acidulate solution in separatory funnel with dilute sulphuric acid and extract the liberated salicylic acid with several successive portions of chloroform. Transfer the chloroformic extract containing the salicylic acid, into a tared beaker through a dry filter paper. Evaporate the chloroform at a low temperature in a current of air. Finally dry at 80° C., transfer to a desiccator, cool and weigh. From the results obtained the amount of sodium salicylate contained in the prescription can be calculated.

(b) Proceed as directed under (a) above until chloroform is evaporated. At this stage dissolve the residue in about 10 mils of alcohol, dilute with water to 25 mils and titrate with $\frac{N}{10}$ sodium hydroxide solution, using phenolphthalein as indicator. 1 mil of $\frac{N}{10}$ sodium hydroxide is the equivalent of 0.016 Gm. of sodium salicylate.

(c) Ignite a given weight of the material, extract the residue with water and titrate with $\frac{N}{10}$ sulphuric acid, using methyl red as indicator. 1 mil of $\frac{N}{10}$ sulphuric acid is the equivalent of 0.016 Gm. of sodium salicylate.

Comments.—Acetanilide was substituted for antipyrin in two cases.

PRESCRIPTION G.

Phenacetin and salol, each 60 grains, to be mixed and made into one dozen powders.

Each powder should contain 5 grains each of phenacetin and salol.

METHODS OF ANALYSIS.

These methods are given in an article recently published in the *J. Ind. and Eng. Chem.*, 7, 681, 1915, by W. O. Emery, G. C. Spencer and C. C. LeFevre.

Comments.—The compounding was well done.

SUMMARY.

1. The results in this article show that there is considerable room for improvement in the quality of the drugs examined.
2. An examination of the mixtures procured on prescriptions shows that carelessness in compounding obtained in some cases and actual substitution in a few others.
3. A few of the methods of analysis used are new, some an adaptation of well-known procedures and others are the common ones in use.

BUREAU OF CHEMISTRY,
UNITED STATES DEPARTMENT OF AGRICULTURE.

TUBERCULINS.*

BY L. K. DARBAKER.

Barnard and Baron claim that pronounced reactions are more easily obtained with patients in the incipient stages; moderate reactions occur with advanced lesions, and that the absence of a reaction in a clinically advanced patient heralds a speedy death.

The Ophthalmic or Calmette Reaction.—Calmette placed a drop of a 10 percent solution of tuberculin in the eye. This was claimed, in tuberculous patients, to be followed by a more or less severe conjunctivitis, while in the non-tuberculous patients a slight reddening only occurred. The reaction appears in three to ten hours and is highest in six to twelve hours, disappearing in twenty-four to

* Concluded from p. 627, July issue.

thirty-six hours. A secondary test is sometimes made, when the first test is negative, by placing the tuberculin in the uninoculated eye. This test at best was dangerous and was nearly always followed by serious after-effects. It is now seldom used. Patients in advanced stages of the disease frequently did not give the reaction.

Percutaneous or Moro Test.—A piece of ointment about the size of a pea, composed of Koch's "Old Tuberculin" 5 mils and lanolin 5 grammes, is rubbed over an area of about 8 mm. for one-half minute, permitting the ointment to remain on the skin and be absorbed. When the skin in twenty-four to forty-eight hours shows no reaction and no itching, the reaction is said to be "negative;" if within two to ten hours distinct red papules of 1 to 2 mm. in diameter appear, disappearing in a few days, accompanied with itching, the reaction is said to be "Weak Reaction," and if within the first twenty-four hours, 100 or more papules of about 3 mm. in size appear, the surrounding skin becoming red, accompanied with slight itching and lasting unchanged for several days, then gradually fading out, the reaction is said to be "Moderately Strong." If within a few hours after applying the ointment, 100 or more papules of 5 to 8 mm. in size appear on an inflamed background, some papules erupting, and the papules not being confined to the point of inoculation but extending to the immediate surrounding area, accompanied by itching, and in a few days the papules drying up and becoming scaly, all disappearing in two weeks except a brownish pigmentation, the reaction is said to be "Strongly Positive" or "Strong Positive."

The Subcutaneous Test.—"Old Tuberculin" is injected in doses of from 1 to 10 milligrammes. Koch stated that 10 milligrammes could be administered to a healthy patient without producing characteristic reaction symptoms, and used three doses of 1, 5, and 10 milligrammes, injected every three days. A positive reaction gives rise of temperature, pain in head and back, heavy feeling in limbs and general lassitude. The temperature rise is usually in 3 to 16 hours but sometimes only after several days, and returns to normal in 24 to 48 hours. This reaction in many cases is followed by sloughing at the injection site.

Intracutaneous Test.—Consists of injecting "Old Tuberculin" intradermally, which is followed by a nodular area of inflammation in positive cases.

All tuberculin tests exhibit the following reactions to some extent:

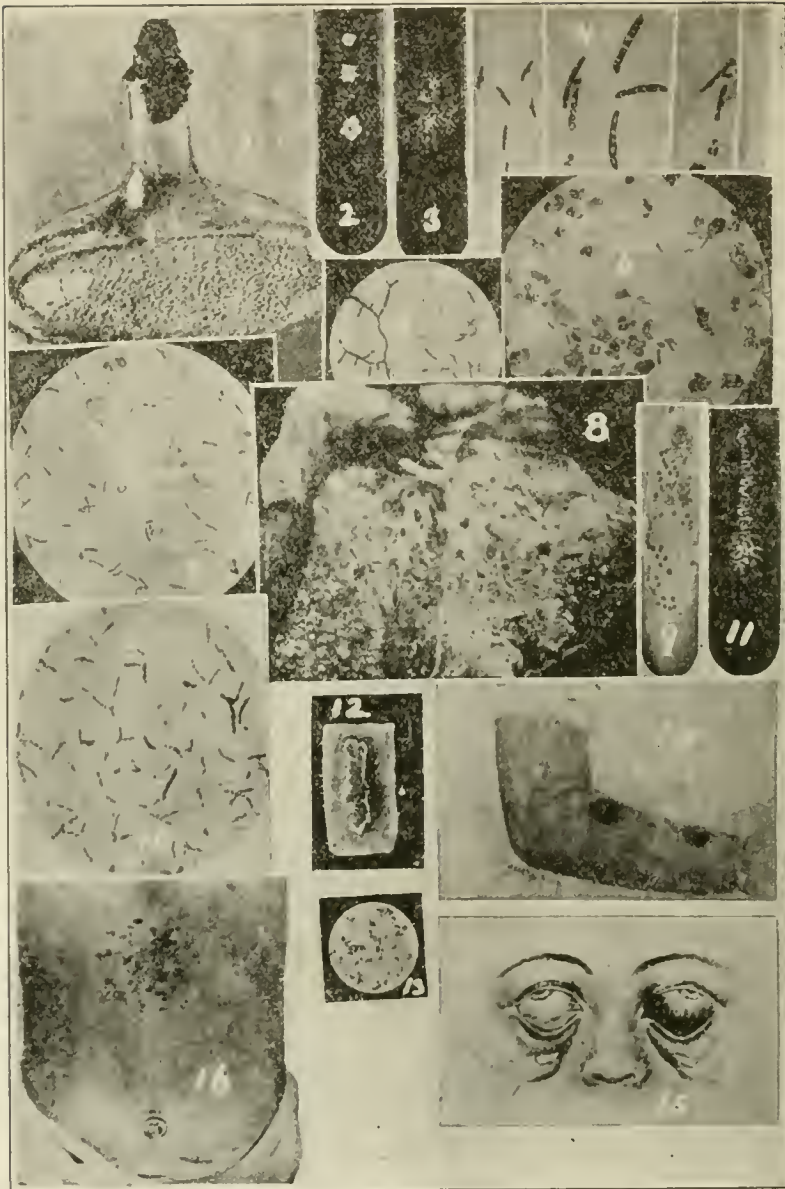
First, general reaction.—Elevation of temperature, headache, malaise.

Second, local reaction.—Increasing local symptoms such as increasing the amount of sputum.

Third, stick reactions.—Inflammation at injection site.

Many tests are better, safer, and convey no danger to the patient, as the Wasserman Modified Tuberculosis Test, Abderhalden Serum Test, and the testing on animals. Dr. Leteve states "All tuberculin tests are dangerous to use on man, although valuable for cattle."

Tuberculin Therapy.—Tuberculin is not suited for patients in a febrile condition, or in whom destruction of tissue is advanced. The curative value of tuberculins depends on the local inflammatory reactions which they cause around the tuberculous foci. Tuberculins, if used, must be administered in such very small doses as to cause the smallest local reactions possible. The treatment begins



1. Broth Culture of the Human Type. Copied from McFarland's Book on Pathogenic Bacteria. 2-3. Human Type Organism. Copied from Saunder's Medical Hand Atlas. 2. 14 days' growth. 3. 40 days' growth. 4. Various Morphological Forms of the Human Type. Copied from McFarland's Pathogenic Bacteria. 5. Copied from Saunder's Medical Hand Atlas. 6. Tubercle Organisms in Urine. From a Tuberculous Bladder. Copied from Klopstock and Kowarsky. 7. Tubercle Organisms in Sputum. 8. Tuberculous Kidney, showing Tubercles. The dark spots indicate the tubercles which have been torn down and excreted. Copied from McFarland's Pathogenic Bacteria. 9-10. Avian Tuberculosis Organism. Copied from More's Principles of Bacteriology. 11-12. Piscicola Type Organism. Copied from Saunder's Medical Hand Atlas. 11. 30 days' growth. 12. 14 days' growth on potato. 13. The Piscicola or Fish Type Organism. 14. Von Pirquet Reaction. The middle scarification is the control. Copied from a set of lantern slides on Antitoxins and Vaccination, donated to the writer by Alexander & Company. 15. Calmette Ophthalmic Reaction. Copied from a set of lantern slides on Antitoxins and Vaccinations donated the writer by Alexander & Co. 16. Percutaneous or Moro Test. Copied from a set of lantern slides on Antitoxins and Vaccines, donated the writer by Alexander & Co.

with "B. E.," "B. F." or "T. R.," for pulmonary cases, a dose of 0.000,000,01 (1/100,000,000) Mg.; for glandular or bone infection, a dose of 0.000,000,1 Mg. is given, these doses being gradually increased every week or two for a long period of time, extending over several years.

Much smaller doses must be given in febrile cases. The best results seem to be obtained by giving very small doses at long intervals, and the cure is said to be recognized when the patient has permanently lost the power to react to tuberculin.

Probably the therapeutic value of tuberculins depends upon the formation of antibodies following the injections. These antibodies are produced throughout the whole animal body, while the antibodies produced by the disease are produced only by the tissues directly involved.

The opsonic index has been used as a guide to the dosage, but it is a question as to whether the condition of the patient is a guide to the amount of the injections.

Sahli states "Tuberculin treatment is not an active immunization, pushed to its farthest limits, but rather the essence of the treatment is to stimulate the natural functions of the body."

Voorsanger, in an article in the *Interstate Medical Journal*, sums up the tuberculin question as follows:

"The periods of tuberculin are: First, the first users of tuberculins gave the preparations in excessive doses. This was followed by disastrous results. Second, tuberculin then was generally discarded. Third, he hopes that through careful animal experimentation a true specific for tuberculosis may be found."

Tuberculin over three months' old must not be used. The greater the dilutions of tuberculins, the sooner they become useless.

"We must remember that tuberculins are toxins and not antitoxins, that any product of the tubercle organism, either in whole or in part, is a toxin, and that when administering a toxin into the human body, we wish to obtain an overproduction of antibodies, so as to raise the natural defence already in the body, to stimulate them and to gain as great a production as possible.

"The use of tuberculins made from the bovine type for the treatment of tuberculosis caused by the human type and the use of tuberculins made from the human type organisms when the disease is caused by the bovine type is common. The bovine type organism produces a greater number of antibodies.

"We do not establish an immunity to tuberculosis, but to tuberculins. We are still experimenting; we are not dealing with a specific; we are striving for the extermination of one of the world's greatest scourges. It matters little how this is accomplished. Up to the present day, tuberculins will not cure alone, but with proper care and surroundings, tuberculins may aid and hasten some cures.

SUMMARY.

Cultures of the tubercle organisms are grown in a peptone beef-broth, containing 5 percent glycerin, for 4 weeks, killed by heat, and yield:

I. Bazillen Emulsion, or "B. E." Preserved with 20 percent glycerin. The Bazillen Emulsion upon filtration yields:

II. The filtrate which contains all the broth-soluble constituents.

A. "T. O." or Koch's Original Tuberculin. Prepared by grinding the cultures in a mortar, washing, centrifuging and filtering. Five percent glycerin is added as a preservative.

B. "B. T." or Koch's Old Tuberculin. Prepared by evaporating the cultures, which have been killed by heating at 100° C. for one hour, to 1/10 of the original volume in vacuum, filtering, and preserving the filtrate by adding 50 percent glycerin.

C. "B. F." or Denny's Original Filtrate or Broth Filtrate. Prepared by filtering the cultures through paper and then through porcelain, and preserving the filtrate with 0.4 percent tricresol.

III. The precipitate or residue remaining after filtration, and containing the bacterial organisms:

A. "T. P." or Tuberculin precipitate. The residue remaining after filtration, standardized so that 1 mil contains 5 Mg. solids.

B. "T. P. P." or Purified Tuberculin Precipitate. The residue washed and precipitated with alcohol.

C. "T. R." or Koch's Tuberculin Residuum. Prepared by grinding the dried residue in a ball mill until by microscopical examination shows no whole organisms. The process requires from two to four months. Twenty percent glycerin is added as a preservative. It is then standardized so that 1 mil contains 1 Mg. of solids.

D. "T. C." or Bovine Tuberculin. The residue remaining after the filtration of cultures of the bovine organisms.

The "T. O." is used in the following tuberculin tests:

1. Subcutaneous Test. 0.1 to 10 Mg. injected under the skin.
2. Intracutaneous Test.
3. Cutaneous or Von Pirquet Test. By scarification.
4. Ophthalmic or Calmette's Test. Dropped in eye, 10 percent solutions. ("T. P. P." is also used in this test.)

Also used in suppositories; 1 Mg. or more in each.

The "T. R." is used in the Percutaneous or Moro Ointment Test. Using "T. R." or "B. E." with 5 grammes of lanolin.

All the tuberculin preparations must be tested physiologically and also for sterility.

CRUDE DRUGS OF THE U. S. P. IX, FROM A COMMERCIAL POINT OF VIEW.*

BY S. B. PEÑICK.

My subject, "Crude Drugs of the U. S. P. IX, from a Commercial Point of View," suggests several considerations and I shall try to present them in the following order: *Their Standards; Their Market Values; Difficulties of Securing Supplies of Foreign Drugs; Difficulties of Securing Supplies of Domestic Drugs.*

Of necessity, I will confine my remarks to Botanical Crude Drugs, since my relation is entirely with this line of business. About most other items of the Pharmacopoeia, I must confess a large amount of ignorance.

Their Standards: The standards that our new Pharmacopoeia has provided for Botanical Drugs, speaking generally, are unquestionably wise, and not unreasonable. We find in the U. S. P. IX a clear and specific standard for most of our important official botanicals. Those for which our chemists have been unable to establish chemical methods of determination of quality, are provided for by other standards which will safe-guard the public against anything that is not true to name and of the best quality.

A WORD ABOUT CHEMICAL STANDARDS OF THE RECENT REVISION.

The drugs containing definite alkaloids, such as Belladonna, Henbane, Hydrastis, Ipecac, Jalap, Jaborandi, Nux Vomica, Colchicum, etc., have standards which can be readily met in the average good quality of the market.

In some of these assayable drugs, it has been interesting to note the changes they have undergone.

Some time ago, because of inability to obtain commercial quantities of belladonna root and leaf, jalap, colchicum and other crude botanicals, meeting the standards of U. S. P. VIII, these requirements were reduced and continue in force to-day. At the present time there is seldom any difficulty in securing most of these drugs well above the present requirements. It is not easy to explain why, at one time, in some cases the alkaloidal content is uniformly low, even in good appearing lots, while at others, perhaps with the lapse of a year or two, the same drugs having no less impurities, will run much higher in alkaloid. Taking, however, the maximum and minimum alkaloidal content of these drugs at different periods, the standards provided are doubtless a good average.

A most valuable addition has been the statement of ash-limits for each item. Information of interest is very rapidly available by this test and with much less likelihood of wide variation in the hands of different persons. It makes for cleaner crude drugs and in a way regulates the character of the foreign matter permissible under present requirements.

Passing from the chemical standards and considering physical qualities, we find wise provisions from a commercial point of view, now made for botanical drugs, the quality of which is judged by their physical condition and appearance. Owing to the fact that botanicals are widely gathered throughout the world by the lowest class of labor, both in pay and intelligence, it has been impossible to obtain a 100 percent standard of quality for scarcely any botanical drug.

* Read before New York Branch A. Ph. A., May meeting.

When buchu is gathered in the southern portion of Africa, it makes no difference how much pressure is brought upon the natives, they will still supply it with more or less stems, dirt, or other admixtures. When our spigelia root, leptandra root, queen of meadow root, skunk cabbage root, hydrangea root, are gathered, it would require, owing to formation of root branches, a great amount of labor to remove all the adhering dirt. In the collection of seeds which usually grow wild, the peasant labor of Russia is entirely beyond our control, and we cannot prevent the mixing in, to some extent, at least, of other seeds.

It may readily be seen that to purify such goods would more than double the labor cost, while only producing a quality about 10 percent better than now exists in the market. Because of this condition, we find in the new standards a general allowance for stems and foreign matter in many items. A few instances of such percentage allowances are: Buchu leaves, 10; pink root, 10; coriander seed, 5; caraway seed, 3; cloves, 5; senna, 10; uva ursi, 4; fennel seed, 4; and so on. In fixing these standards it is not to be expected that some mistakes would not occur, and we find some drugs which have never been (up to this time) produced commercially, equal to present requirements.

On consulting the item Lobelia—"the dry leaves and flowering tops, without more than 10 percent of stem and foreign matter"—is given as the standard. In the flowering tops there must be some stem, which would possibly be 10 percent of the total, so that no more stem must be present if the drug strictly conforms to requirements. The same conditions exist in the specification for Grindelia. Neither of these drugs will be found on the market within 50 percent of the requirements, and when eventually, both are commercially obtained to meet the standard mentioned, the price now averaging 8 cents per pound, crude, in bale, will be several times this figure, and will be due entirely to the increased cost of labor in producing them. There will also be the risk that there will not be anything like enough produced; this will cause a scarcity which may further increase the price.

The Microscopic Standards which the new Pharmacopocia presents, of course, make necessary the services of an expert pharmacognosist; but we have no reason to be other than thankful, that such standards are possible, for we all know that microscopical work of experts has been the backbone of the enforcement of the Federal Food and Drugs Act, as far as botanical drugs are concerned.

It is not enough to-day to have a broad general commercial experience in identifying physically, certain products among which may be mentioned, matico, spigelia, belladonna and *viburnum opulus*; it is also necessary, in order to remove all doubt of the genuineness of these and others, that the microscopical work be conducted by experts. A great many mistakes have been made, and are being made to-day, in the identification of drugs because the proper methods are not followed, and it is vitally necessary to uphold the present standards and that expert microscopical work be done on all goods entering this country.

Under physiological standards recommended by the U. S. P. we find classed: Ergot, Aconite, Cannabis, Digitalis, Strophanthus and others. From a commercial viewpoint, we have more or less difficulty, though we are successful, in bringing all necessary drugs up to proper chemical, microscopic and macroscopic standards. But these difficulties are small compared with those encountered in the

maintenance of reliable physiologically tested drugs. I think, however, there will be improvements in the near future which will yield entirely satisfactory results.

It is of general interest to compare Crude Drugs Standards and Conditions of to-day with those of the U. S. P. VIII and prior to the passage of the Federal Food and Drugs Act.

In the foregoing, reference has been made to our present standards, and in comparing them with the U. S. P. VIII, we find very marked differences.

When the Pharmacopoeia was recognized in the law of 1906, the commercial viewpoint of it was not a pleasant one, but it eventually became apparent that the standards it provided would be enforced, making it necessary for many, who had not dusted their Pharmacopoeias for many years, to take them down and begin a new course of commercial work. In the beginning it was thought that unsurmountable difficulties were ahead, in testing assayable drugs, and in procuring supplies to meet the requirements, because of the fact that the U. S. P. VIII made no allowance for any foreign material present in various drugs; products containing even a minute quantity of foreign matter had to be labeled "not U. S. P.," thus damaging the merchandise from a market standpoint. When we compare our present standards with those of the old revision, we can be thankful that the Federal Food and Drugs Act came upon us with the less stringent requirements of U. S. P. VIII to conform to.

Some entertainment may be found in thinking of the conditions surrounding crude drug merchandising which existed prior to the passage of the Federal Food and Drugs Act. It was then merely a question of selling roots and herbs, much as any other commercial business is conducted. You could then buy a given crude drug for 10 cents per pound or 30 cents per pound, as you can to-day purchase a necktie for 25 cents or \$2.00.

It is not surprising that spigelia root was then found by inquisitive people to have no anthelmintic properties, that *viburnum opulus* lost some of its reputation. Although impressions to the contrary have prevailed, such practices were by no means intentional with many merchants interested in marketing crude drugs. Conditions then were such, that, commercially, the qualities of to-day could rarely be disposed of, and nothing short of the drastic Federal law, we now enjoy, could have wrought the change. When the law became effective, it looked rather dark for the future of the crude drug business, but, as was foreseen by a few, it has actually proved a very successful measure from a commercial viewpoint, and the standards of to-day stand as a protection to the merchant wishing to conduct his business upon ethical lines.

Market Values: In the Wall Street district since the outbreak of the war, the public has been treated to unprecedented fluctuations. We have seen some industrial stocks, especially "War-Brides," rise from a few dollars per share to several hundred dollars, and the only other parallel to such advances in commercial affairs has been in the drug and chemical business. Unfortunately the drug and chemical business has not the advantage that the Wall Street stocks have, inasmuch as our stocks must be real and cannot be turned out on paper according to the market demand.

The question of supply and demand is altogether responsible for existing conditions. During the past few months we have seen many botanicals pass from a

few cents per pound in market value to a good many dollars per pound, with the need just as great, though, of course, the consumption curtailed, as when the price was low.

It must be remembered that, contrary to a natural supposition in the case, an item such as pulsatilla herb is in demand not because of superior medicinal value, but merely because some particular pharmaceutical product containing this drug, or some unchangeable physician's demand for this particular herb, and nothing else, causes the rise in price. While pulsatilla herb formerly sold at 40 cents per pound, sales have recently been made in the New York wholesale market at \$8.50 per pound. We have seen henbane rise in value from 8 cents, to its present price, which though nominal, is \$6.00 per pound.

Aconite root formerly 8 cents per pound, now is 75 cents.

Alkanet root formerly 6 cents per pound, now is \$2.00.

Arnica flowers, formerly 8 cents per pound, now are \$2.75.

Buckthorn berries formerly 18 cents per pound, now are \$2.00.

Cantharides formerly 25 cents per pound, now are \$4.50.

Calendula flowers formerly 30 cents, now are \$4.50.

Chamomile flowers, formerly 8 cents per pound, now are 60 cents.

Fenugreek seed, formerly 3 cents per pound, now is 13 cents.

Licorice root formerly 4 cents per pound, now is 25 cents.

Senna, T. V., formerly 6 cents per pound, now is 24 cents.

Senna, Alexandria, formerly 12 cents per pound, now is 75 cents.

The mathematics required to calculate these percentages of advance is beyond the capacity of the speaker, but at present a mere 50 or 100 percent advance is of little moment.

The scope of activity of a crude drug establishment and the disposal of the many items coming under the general term of "Botanical Drugs" is not fully realized by many outsiders. We find the veterinary manufacturer an outlet for our aloes, gentian, and other similar items; the pharmaceutical manufacturer, for alkaloidal drugs, and the general line; the toilet goods manufacturer for many; the ice cream dealer for others; the textile manufacturer for others. Literally the butcher, the baker, the candle-stick maker are all customers of the crude drug merchant.

During the past three years, the market conditions have imposed the severest tests upon the ability of the crude drug merchant. It now seems that his problem of a few years ago was a very simple one, as it required only that he be guided by precedents, in arriving at the wisest course for the day's action. Precedent used to be spelled with capital letters, and usually signs of "Business before pleasure," "Do it now," and many other injunctions were all overshadowed by the word "Precedent." To-day the word cannot be found in a business establishment, and the person that ventures to suggest a "precedent" generally finds himself edged away from, and regarded as a freak by his associates.

As we all know, the severance of commercial relations with Germany, at the beginning of the war caused much anxiety and considerable panic, but we have not yet realized, perhaps, the full extent of the step. If in the beginning it could have been foreseen that so many of our drugs, both mineral and vegetable, would be cut off, steps could have been taken to replace them by substitutes or parallel drugs,

particularly the items above mentioned. To obtain supplies, we have been compelled to ransack all parts of the world, securing ridiculously small amounts from various countries, where surplus stocks were held. To-day, we are getting very limited quantities from neutral European countries. Little thought was given in the beginning to drugs other than those controlled by Germany, but it is now a fact that the scarcity of ships to bring us raw materials from the Far East, the Mediterranean and even South America, has entered into the difficulty of obtaining supplies and caused absurd market advances. Nux vomica and gamboge from India, and a number of items from Japan and China—our spices from the Far East—have all distressingly advanced in price. To secure merchandise by correspondence, as of old, has practically been abandoned. We must cable and re-cable to get materials at all.

Domestic Drugs: The difficulties of securing domestic drugs presents wholly a different aspect, as this line has been full of competition. A bare living was made by the natives of the mountains of Western North Carolina, in gathering our supplies of wild cherry, sassafras, black haw and about 150 other crude drug articles. Competition reducing the price, usually helped in normal times to secure these herbs. Now that we have greatly increased demands on labor for farm products, barks for tanneries, wood for paper pulp and many other industries which provide the same class of labor with remunerative work, we have great trouble in securing domestic drugs. The state of affairs is due almost entirely to labor scarcity. We have seen this winter, lady slipper root advance more than 200 percent; Canada snake root about 300 percent; spikenard, squaw vine and many others have advanced. There is little prospect of the present season's collection relieving the situation, and American drugs must take their place in the line of march to higher prices.

I am inclined to think that the crude drugs of the U. S. P. IX, on account of the higher plane they now occupy and because of the standards maintained for them, are likely to increase in consumption, and in usefulness. They will be real factors in the mitigation of sickness and disease.

LABORATORY, S. B. PENICK & CO.

GELATIN AS A NUTRIENT.

It is generally supposed that gelatin is incapable of building tissues, and that in no way can it be regarded as a true substitute for proteins. But recent biochemical researches show that under certain conditions gelatin can replace the proteins for the purposes of nutrition. Evidence has been adduced that the addition of the amino-acid tryptophane alone to the hydrolysis products obtained from pure gelatin made these efficient in maintaining the nutrition of animals. The addition of tyrosine does not give the same decided effect as tryptophane. In the case of unhydrolysed gelatin, however, it was badly digested and absorbed, and this explains the failure to obtain good results upon the addition of the missing amino-acids in previous experiments. With the addition of tryptophane to hydrolysed gelatin in the cases of four rats experimented upon, two were not only able to maintain their weight but also exhibited some growth, and their general condition remained satisfactory.—G. Totani (*Bio-Chem. Journ.*, October 1916, through *Pharmaceutical Journal*).

CONTRIBUTED AND SELECTED

BATHING ALCOHOL CANNOT BE SOLD WITHOUT INTERNAL REVENUE TAX.

BY OTTO RAUBENHEIMER.

With great interest did I read the article of my friend Burge from Tennessee in the June number of the JOURNAL, namely, "Selling Alcohol without Internal Revenue Special Tax." I was particularly well pleased with the clear statement at the foot of page 539 and at the top of page 540:

"Pharmacists may carry wines and distilled spirits in stock for the manufacture of U. S. P., N. F., and other preparations, and for compounding *bona fide* prescriptions, without the 'special tax,' provided sufficient drugs are used in the alcohol before its sale to render it unfit for use as a beverage. But they cannot sell spirituous liquors or wines not so compounded, even on a physician's prescription, and for purely medical purposes, without the *special revenue license*."

However, I cannot agree with my friend Burge in the following paragraph and the entire balance of his paper, quite especially as to the statement:

"In order to exempt the pharmacist from this special tax, the Internal Revenue Department has approved of the following combinations, by which the alcohol is so denatured that it may be used for bathing and general antiseptic purposes, the intention being that the prescription shall specify the nature and amounts of the ingredients desired in the compound." Then follow 17 formulas for bathing or rubbing alcohol.

This entire matter came before the Committee on National Formulary of the A. Ph. A., together with the recommendation to adopt one of these formulas for "Bathing or Rubbing Alcohol" in the new (4th) edition of the National Formulary. However, when the Committee got in touch with the Internal Revenue Department at Washington, it learned that *these formulas could not be used by the pharmacist for the preparation of a Bathing Alcohol without an Excise License*. Why then were these formulas published? The answer is, for the use of hospitals and other institutions which obtain their alcohol *free of tax, so as to render the alcohol unfit for internal use*.

This matter was thoroughly threshed out and the National Formulary Committee, as early as October 1915, at the Philadelphia meeting, definitely decided *not to adopt a formula for "Bathing Alcohol" in the new edition of the N. F.*

Inasmuch as this fact does not seem to be generally known—quite especially as the Denver Branch even adopted one of the formulas in April 1916—I consider it my duty to call the attention of my brother pharmacists to this important matter. Remember that by selling bathing alcohol, even when denatured by one of the formulas of the Internal Revenue Office, the pharmacist must possess a Federal Alcohol License and, furthermore, in most states also a State Revenue License, or as it is named, to the disgrace of pharmacy, a Retail Liquor License.

CONCERNING PROPOSED COMPULSORY HEALTH INSURANCE
LEGISLATION.*

BY J. H. BEAL.

The professed objects of compulsory health insurance must command the cordial sympathy of every right-minded citizen. Every one will readily grant that the loss of wages due to illness, and the cost of medical treatment either of himself or of members of his family constitute a grievous burden upon the poorly paid wage earner, and that the alleviation of such burden is a proper subject for state legislation.

It does not follow, however, that the first remedy suggested is the proper one, or that we should accept any proposed remedy without careful scrutiny of its provisions, and without thorough consideration of its probable effects both upon the classes sought to be benefited and upon the state and society at large.

The so-called "model" or "standard bill" for Compulsory Health Insurance proposed by the *American Association for Labor Legislation* is a lengthy document, consisting in all of 59 sections, many of them containing provisions which interlock with the provisions of various other sections, so that only by careful and critical study is it possible to become acquainted with the purport of the measure as a whole or to form any intelligent judgment of its probable effects upon the persons to be benefited or upon the persons who are to bear the burdens imposed.

The nature of compulsory health insurance.—As set forth in the standard bill, compulsory health insurance is the insurance by act of law of certain classes of wage earners and their families against sickness—including maternity—and the payment of certain cash and death benefits.

It is "compulsory" because all of the workers to whom it applies are to be insured by act of law without the exercise of option on the part of the individual insured.

Who are to be compulsorily insured.—Compulsory insurance is to apply to "every worker at manual labor," no matter what his wage income may be—and to every other employee whose wage compensation does not exceed \$100.00 per month.

The only persons to be exempt under the law are employees of the United States Government and also such state and municipal employees as are otherwise insured "through legally authorized means," *i. e.*, those who are insured under some other form of law. (Sec. 2.)

When the benefits are to accrue.—The benefits are to apply to every case of sickness of employees, or members of their families, and to accident or death not covered by workmen's compensation acts. (Sec. 6.)

What the benefits are to consist of.—The minimum benefits are to consist of—

- (1) All necessary medical, surgical and nursing attendance for the employee and dependent members of his family.
- (2) All medical and surgical supplies to the extent of \$50 in any one year.
- (3) For female employees or the wives or widows of employees a maternity benefit for six months of the year preceding confinement.
- (4) A cash payment to the employee during sickness, equal to two-thirds of his weekly wage, for 26 weeks.

* An address before the Illinois State Pharmaceutical Association, June 20, 1917.

(5) In place of home treatment, the sick employee may be given treatment in a hospital, in which case his family is to receive one-third of his weekly wage.

(6) In case of death of the employee or of a dependent member of his family, a funeral benefit of \$50. (Sec. 7.)

Additional benefits may be paid under certain conditions. (Sec. 20.)

How the expense is to be met.—The expense of compulsory health insurance is to be contributed jointly by employers, employees and the state. The employer and employee are each to contribute 40 percent of the cost, and the state 20 percent. The state is also to pay the salaries and expenses of the State Social Insurance Commission and its employees, and also various other expenses of administration.

If the earnings of the employee are below \$9 a week, the contribution of the employer is increased proportionately and that of the employee correspondingly decreased. If the weekly wage is \$5, or less, the employee is relieved of all contribution.

The limit of the amount of money which may be spent.—According to the standard bill there is no limit on the amount of money which may be collected and spent. It must be sufficient to discharge the obligations created by the law. (Sec. 23.)

How the money is to be collected and paid.—The employer must pay into the fund at least monthly the total contribution due from him and his employees, and must notify his employees of the amount paid on their behalf. (Sec. 33.) The state contribution is to be paid from the state treasury.

The machinery of administration.—The machinery of administration is partly local and partly state. At the head of the system there is to be a "Social Insurance Commission," appointed by the Governor and paid by the state, having general charge of the administration of the law and supervision over the local societies. (Sec. 43.)

The Social Insurance Commission is to be advised by a "Social Insurance Council" (Sec. 52) and by a "Medical Advisory Board," chosen by the state medical societies. (Sec. 56.)

The local machinery is to consist of local or trade societies known as "Funds" or "Carriers," each of which is to be controlled by a "Committee of the Fund" and a "Board of Directors."

Creation of the local societies or funds.—The state is to be divided into districts containing not less than 5000 persons subject to compulsory insurance, in each of which there is to be one or more local or trade funds which are the direct carriers of the insurance in such district. (Sec. 25.)

By act of the law every person in the district subject to compulsory insurance and every employer thereof is made a member of these local or trade funds. (Sec. 34.)

The first step in the organization of a fund is the election of a "Committee of the Fund" of not less than 20 nor more than 100 members, who are to be elected jointly by the votes of the employee and employer members. (Secs. 29-30.)

The Committee of the Fund in turn is to elect a Board of Directors of not less than 8 nor more than 18 members, which is to direct the administration of the Fund. Members of the Board are to receive \$5.00 per day while attending meetings. (Sec. 31.)

The above is a very imperfect review of some of the principal provisions of the bill. Other sections will be referred to subsequently.

CHARACTER OF THE BILL IN GENERAL.

Apparent discrimination against certain classes of workers.—A peculiar feature of the bill is the apparent discrimination against certain varieties of labor in favor of others.

Section 3 provides, among other things, that compulsory insurance shall apply to every person "employed at manual labor," and to every other employee whose remuneration does not exceed \$100 per month.

That is, a railroad engineer or high grade mechanic earning perhaps \$2,000 to \$2,500 per year would be entitled to receive free medical, surgical and nursing attendance and supplies for himself and family, and two-thirds of his weekly wages while ill, while an employee at any other kind of labor who might receive a few dollars in excess of \$100 per month would not be entitled to any of these benefits, although as a citizen and taxpayer he would contribute to the maintenance of the health insurance of the more highly paid manual worker.

The reason for this discrimination between employees at manual labor and other employees is not clear. The only information given in the pamphlet accompanying the bill issued by the *American Association for Labor Legislation* is the statement that "German and English precedents are followed by including under compulsory insurance all manual workers, whatever their earnings, and in limiting compulsory insurance for other employees, mostly clerks and foremen, to persons earning less than \$1,200 a year."

According to all accounts there are but few manual laborers in Germany and Great Britain who receive wages comparable to those paid to specialized mechanical laborers in the U. S., and if this be true something more than a bare quotation of European precedents would seem to be necessary to establish the justice of what, at least on its face, appears to be a gravely unfair discrimination in favor of one class of wage earners as against all others.

Indefiniteness of certain provisions of the standard bill.—Advocates of the standard bill have had much to say concerning the simplicity of the language employed, and of the absence of involved and obscure phraseology, but such praise must be accepted with some qualification. At least a part of its apparent simplicity seems to have been gained by the avoidance of problems troublesome of solution, or by the use of general terms for the designation of functions which would show themselves to be incapable of practical application if they had been described in detail.

For example, Section 4 provides that "Special regulations shall be made by the Social Insurance Commission for the insurance of home workers and casual employees, or for their exemption from compulsory insurance."

The insurance of the casual worker, usually one who works at odd jobs or irregularly, has not been satisfactorily accomplished by the German and British social insurance schemes, because there is no regular employer to contribute the employer's proportion or to be responsible for the contribution due from the employee.

The use of the word "shall" in Section 4 would indicate that such insurance is to be imperative, but this conclusion is destroyed by the qualification that the Commission may exempt them from compulsory insurance. In other words, these workers may be either compulsorily insured or exempted from insurance as the Social Insurance Commission pleases.

Another example of simplicity obtained by the avoidance of embarrassing details is found in the provisions for the insurance of self employed persons (*i. e.*, the huckster, small shop-keeper, etc.) for whom it is simply provided that they "may insure themselves voluntarily in the local or trade funds of the locality in which they live, or of the trade at which they are employed, subject to the conditions of this act." This language seems to indicate that such persons may obtain insurance on the same terms as other wage earners, but on examination of another section (Sec. 35) we find that the by-laws of a fund may refuse insurance to any person "who has not passed a satisfactory medical examination," and that an application for admission to voluntary insurance "shall be subject to the same conditions as an application for ordinary life insurance."

Under compulsory health insurance it is not to be expected that employers will hire, or will continue the employment of persons whose age or physical condition indicates that they will soon be in need of relief. Such persons will thus become either casual workers who may be exempted from insurance by the Commission, or self-employed persons to whom voluntary insurance may be denied because of their inability to pass a medical examination. In other words, the insurance of these two classes of workers, the most necessitous of all wage earners is, so far as this bill is concerned, only a hollow pretense.

If the framers of the standard bill knew of any effective and practicable method of providing health insurance for casual workers and self-employed persons they should have inserted sections showing how this might be done, or at least should have furnished us with a sample of the special regulations by which the Insurance Commission can effectively deal with a subject which so far has not been satisfactorily handled in the countries where health insurance laws are in force.

No restriction upon the character of the illness compensated for.—It will be observed that there is no restriction upon the character of the illness, or of the cause from which it resulted, so far as entitlement to benefits is concerned. The man whose damaged health is due to his own negligence or fault, the sufferer from vicious habits or from gross neglect of the rules of health, and the victim of venereal disease are equally entitled to medical benefits with the man whose illness grows directly out of the nature of his employment or is due to some reason or misfortune for which he is in no wise responsible.

The healthy employee of careful habits, the employer and the state are all to be called upon to soften the way of the transgressor and to contribute not only to the medical care and treatment of the vicious and undeserving, but also to pay them a cash compensation equal to two-thirds of their wages during their enforced vacations.

The medical provisions of the bill.—The provisions regulating medical, surgical and nursing services are fairly elaborate, comprising about one-eighth of the entire text of the bill, and are as follows:

"Section 10. MEDICAL SERVICE. The carriers, subject to the approval of the Commission, shall make arrangements for medical, surgical and nursing aid by legally qualified physicians and surgeons, and by nurses or through institutions or associations of physicians, surgeons and nurses. Provision for medical aid shall be made by the carriers by means of either:

- (1) A panel of physicians to which all legally qualified physicians shall have the right to belong, and from among whom the patients shall have free choice of physician, subject to the physician's right to refuse patients on grounds specified in regulations

made under this act; provided, however, that no physician on the panel shall have on his list of insured patients more than 500 insured families nor more than 1000 insured individuals;

- (2) Salaried physicians in the employ of the carriers, among which physicians the insured persons shall have reasonable free choice;
- (3) District medical officers, engaged for the treatment of insured persons in prescribed areas;
- (4) Combination of above methods."

"Section 11. MEDICAL OFFICERS. Each carrier shall employ medical officers to examine patients who claim cash benefit, to provide a certificate of disability, and to supervise the character of the medical service in the interests of insured patients, physicians, and carriers."

"Section 13. HOSPITAL TREATMENT. Hospital or sanatorium treatment and maintenance shall be furnished, upon the approval of the medical officer of the carrier, instead of all other benefits (except as provided in Section 16), with the consent of the insured member, or that of his family when it is not practicable to obtain his consent. The carrier may demand that such treatment and maintenance be accepted when required by the contagious nature of the disease, or when in the opinion of its medical officer such hospital treatment is imperative for the proper treatment of the disease or for the proper control of the patient. Cash benefit may be discontinued during refusal to submit to hospital treatment. Hospital treatment shall be furnished for the same period as cash benefit. This benefit may be provided in those hospitals with which the funds and societies have made satisfactory financial arrangements which have met the approval of the Social Insurance Commissioners, or in hospitals erected and maintained by the funds and societies with the approval of the Commission."

From this section it is evident that if the patient refuses to accept hospital treatment the payment of cash benefit may be discontinued, which should prove effective in compelling adherents of Christian Science, osteopathy or other drugless cults to accept the treatment proposed by the regular medical officers.

"Section 14. ARBITRATION COMMITTEE. All disputes between the insured and physicians, or between funds and physicians concerning medical benefits shall be referred to special committees composed of representatives of the interests concerned with an impartial chairman appointed by the Commission, with an appeal to the Commission."

"Section 56. MEDICAL ADVISORY BOARD. The state medical societies shall choose a medical advisory board which shall be consulted on medical matters."

The number of members to constitute the medical advisory board is not specified, nor is there any mention of the term of office.

There is no definition provided for determining what shall be considered a state medical society within the meaning of the act, nor is there any statement of the manner in which the election shall be held.

This suggests the query, whether a society of osteopathic practitioners would be considered a state medical society, and also whether the medical societies are to hold joint meetings for the selection of members of the medical advisory board, or are to act separately.

"Section 58. MEDICAL DISPUTES. All disputes regarding medical benefits which have been appealed to the Commission shall be referred by the Commission to the medical advisory board, which shall report to the Commission, and the Commission shall not decide any such dispute until after a report has been made by the board."

Since all disputes affecting the interests of physicians must first be tried by an arbitration committee on which the physician is represented, and since all appeals from the decision of an arbitration committee must be passed upon by the Medical Advisory Board before the Insurance Commission can decide the matter in dispute, it is evident that the physician's side of the controversy will have ample opportunity of presentation before it is decided against him.

To an outsider it would appear that the interests of the physician are abundantly cared for, especially those who might be fortunate enough to obtain employment under the provisions of the law.

It is stated on good authority that in Great Britain one-fifth of the doctors are in many towns treating one-half of the insured population. German experience is quite similar. In both countries a few physicians enjoy a majority of the insurance practice.

We cannot help but believe that a similar result would follow the general adoption of compulsory health insurance laws in the United States, in spite of all efforts to prevent it. Employment under a health insurance law is public employment, and public employment is only another name for political employment. In every age and in every country political preferment has most frequently come to the best politicians, and I know of nothing in our political history to indicate that the case would be otherwise in the United States.

No basis or rate for the physician's compensation.—It will be observed that there is nothing in the bill to indicate the rate or basis of compensation for medical and surgical services.

A physician friendly to the measure has explained to the writer that this omission was intentional, because it was feared that if a proper rate of compensation for medical services was included it would increase the opposition to the bill's enactment, and that after the bill becomes a law the physician's remuneration can be made satisfactory through the joint action of the arbitration committee and of the state Medical Advisory Board, both of which must pass on all disputes between physicians and the funds before they can be acted upon by the Insurance Commission.

If this be the true reason for the omission, then it can be regarded only as an unworthy subterfuge, and one which is very likely to defeat its own purpose.

All fair-minded men will agree that if medical service is taken by the state it should be properly compensated for, but certainly the taxpayers are entitled to all possible information as to the probable cost of the legislation which they are asked to adopt.

If the bill is put through without the giving of such information and the expense proves greater than was expected, the taxpayers will have the right to feel that they have been tricked, and will demand amendments which will probably be less favorable to the medical servitors than if a fair basis for medical compensation had been plainly stated in the bill in the first place.

The relation of the pharmacist to health insurance.—Provisions for the recognition of the pharmacist's right to existence are conspicuous by their absence from the standard bill. The words pharmacy and pharmacist do not appear in any of its provisions, and the only reference to pharmaceutical interests is in Section 12, which provides that "Insured persons shall be supplied with all necessary medicines, surgical supplies, dressings, eye-glasses, trusses, crutches, and similar appliances prescribed by the physician, not to exceed \$50 cost in any one year;" but no mention is made of the manner in which these supplies are to be obtained or furnished.

Section 13 provides that hospital or sanatorium treatment shall be given whenever in the opinion of the medical officer such treatment is necessary, and also that hospital treatment may be given in existing institutions or in hospitals

erected and maintained by the funds and societies with the approval of the Commissioner.

It does not require any great gift of prescience to realize that persons receiving hospital treatment will receive their medical supplies from the hospital dispensary, and that in all human probability patients receiving home treatment will also obtain their supplies from the same source.

A London correspondent to an American medical publication (*J. A. M. A.*, Feb. 5, 1915, p. 441) has the following to say of the operation of the act in Great Britain as it affects the pharmacist:

"Considerable dissatisfaction exists among pharmacists as to the working of the insurance act. It may be remembered that a capitation fee of half a dollar per annum was allowed by the act for the cost of medicines. The pharmacists claim that this amount is quite sufficient if the act is worked properly and physicians exercise due economy. Unfortunately some do not, and if the amount of money allotted in a particular district on this basis is not sufficient to pay for the medicines, the pharmacists have to submit to a reduction of their bills. These bills are calculated according to a prescribed system—so much for the cost of the drugs according to the market prices, so much for establishment charges (something under 2 cents per prescription) and a dispensing fee (4 cents per prescription). Naturally the pharmacists object to having to pay the penalty of extravagance committed by physicians.* * * * There is a deficiency in the drug fund of about \$35,000 for the year. But while it is easy to bring home cases of gross extravagance, it is obvious that a good deal of extravagance may be practiced without the possibility of a proof. Another form of extravagance more difficult to detect is due to complaisance in ordering medicine for patients over long periods, after it has become unnecessary, or ordering it for patients who never required it at all. In the perfunctory work which all forms of contract practice encourage, there is a strong tendency simply to write prescriptions after the most hasty examination, or, indeed, simply on the basis of the patient's complaints. As has been pointed out in previous letters, the insurance act in many ways provides an object lesson in the evils of socialism."

How can the just rights of pharmacy be guarded?—If compulsory health insurance is to become a fact in this country, the least that pharmacists can demand is that their just interests shall be as fairly treated as those of the physician. That they will not receive such treatment is tolerably certain unless proper provisions for pharmaceutical service are made a part of the law. So far as practicable, therefore, the provisions for pharmaceutical services should parallel the provisions for medical services. That is, there should be a provision for Panels of Registered Pharmacists to furnish medical supplies and medicines, a provision for representation on Arbitration Committees to pass on disputes between pharmacists and the funds, a provision for a State Pharmaceutical Advisory Board, chosen by the State Pharmaceutical Association, to advise the Social Insurance Commission on pharmaceutical matters, and to pass upon appeals from the decisions of arbitration committees on disputes regarding pharmaceutical services.

If some such provisions are not inserted, and if the present medical provisions remain unchanged, it will not be many years after the general adoption of health insurance laws until the woodbine will be twining above the last resting place of dispensing pharmacy.

Effect of compulsory health insurance upon voluntary health insurance.—In addition to the various private corporations which write sickness and burial insurance for profit, there are in the United States numerous fraternal societies, labor organizations, etc., which provide such benefits for their members, and "establishment societies," as that maintained by the Pennsylvania railroad, which provides similar benefits for the employees of particular establishments.

This system of voluntary efforts to provide against the contingencies of sickness and death by wage earners is constantly growing, and if not forcibly interfered with by law is likely to reach a very much greater development.

Judging by the experience in Great Britain, the general adoption of a system of Compulsory Health Insurance will have serious results upon all such voluntary efforts at self-help.

Certain sections of the standard bill (Secs. 35 to 40) purport to provide for voluntary insurance by labor unions, fraternal societies, establishment societies, and the like, provided such societies meet certain specified requirements, and provided also that their "operation will not, in the opinion of the Commission, endanger the existence of any local or trade fund."

The inference is plain. If any of the competing voluntary societies are unable to meet the specified requirements, they will go out of business automatically. If they are able to meet the requirements and continue successfully in business and thereby attract those who would otherwise be insured in the local or trade funds it will only be necessary for the Commission to rule that the voluntary society endangers the existence of the local or trade fund, and their competition will be promptly extinguished.

The elimination of these voluntary societies will also be aided by the provision (Sec. 39) that the employer of those voluntarily insured shall pay to the state fund the same contribution he would have been required to pay if his employees had been members of the compulsory insurance fund. If the employer contributes to a voluntary society or to an establishment fund he will thus have to pay double, and consequently, his interests will lie in the discouraging of all attempts at self-insurance on the part of his employees.

Effect of compulsory health insurance on sickness prevention.—One of the arguments upon which the advocates of compulsory health insurance legislation place great stress is that it will have a great effect in improving general health conditions of the community and in decreasing the morbidity and invalidity rates of the industrial classes. Thus, in the pamphlet setting forth the "Standard Bill" we find the following:

"Unfortunately, although much of it is preventable, there are no signs that sickness in America is diminishing. Instead, the deaths in middle life, due to degenerative diseases, have increased during the last twenty-three years in the United States by 40 percent, whereas during the same period, Prussia, under compulsory health insurance, has markedly improved its national vitality and increased the average span of life. * * * *

"Why should not the general public, through the state, contribute to what has proved in other countries the most powerful agency for sickness prevention, Health Insurance?"

These claims do not seem to be borne out by the evidence of the improvement in the morbidity and mortality rates in Germany and Great Britain as compared with similar periods in the United States.

In an address before the National Civic Federation in New York City (*Compulsory Health Insurance*, pp. 27-28), Mr. Frederic L. Hoffman, statistician for the Prudential Life Insurance Co., made the following statement:

"In so far as the statistical evidence can be relied upon the anticipated results of social insurance in its relation to the health of the adult population have been far from realized. From the introduction of social insurance in the city of Berlin to the present time the mortality rate at ages over ten years has practically remained unchanged. The reduction in the general death

rate has, almost exclusively, affected the population under ten, and chiefly the children under five years. * * * * Considered by quinquennial periods, there has practically been no perceptible change in the rate during the long period since social insurance has been in operation, including insurance against invalidity. Evidence of this nature can neither be contradicted nor gainsaid. * * * *

"There has been a greater reduction in the tuberculosis death rate in this country than in Germany, regardless of the enormous governmental machinery serving social insurance purposes."

In support of these statements Mr. Hoffman quotes figures (*ibid.* p. 30), showing that in 13 years the percentage decrease in the tuberculosis death rate in Prussia was 51 percent, while in the same period the percentage decrease in the tuberculosis death rate in Massachusetts was 57 percent. He further states that the death rate from tuberculosis in England has increased since 1912 under compulsory insurance, and this fact is borne out by the official reports.

In another place (*J. A. M. A.*, Feb. 10, 1917, p. 480), Mr. Hoffman makes the following comparison between health improvement in Europe and the United States through corresponding periods:

"The mortality from pulmonary tuberculosis in the city of New York decreased * * * * during the first five years of the twenty-year period * * * * 44.1 percent. The corresponding decrease in the pulmonary tuberculosis death rate of Berlin was * * * * 36.7 percent. The actual as well as the relative decrease in the pulmonary tuberculosis death rate was therefore more pronounced in the city of New York *without* compulsory health insurance, than in the city of Berlin, where practically the entire wage-earning population is subject not only to the provisions of the compulsory health insurance law, but also to the even more drastic provisions of a compulsory invalidity insurance law. * * * *

"The mortality from typhoid fever, which is perhaps the most sensitive index of sanitary progress, decreased in New York City from 2.5 per 10,000 to 1.1 * * * * per 10,000, equivalent to 56 percent. The corresponding decrease in the typhoid fever death rate of the city of Berlin was from 1.4 per 10,000 to 0.3, or 1.1 per 10,000, equivalent to 78.6 percent. The actual reduction in the typhoid fever death rate of the city of New York was therefore greater than the corresponding reduction in the typhoid fever death rate for Berlin. * * * *

"However, it requires to be considered that the city of New York has had to assimilate an enormous immigrant population, aside from the fact that large numbers annually go on vacation and contract typhoid fever in unsanitary resorts, etc. It is a safe assumption that a large proportion of deaths from typhoid fever in the city of New York at the present time are cases contracted outside of the city.

"An equally sensitive index of effective sanitary progress and control is the mortality from diphtheria and croup. The death rate from these diseases in the city of New York decreased * * * * 75.9 percent. The corresponding decrease in the death rate of Berlin was * * * * 60.2 percent. The mortality from diphtheria and croup is now almost exactly the same in the two cities, and it may safely be asserted that the reduction has been achieved in both cities without any reference whatever to compulsory health insurance."

From the report of a Commission appointed to investigate the results of Compulsory Health Insurance in Great Britain (*J. A. M. A.*, April 7, 1917, p. 1054), the following is abstracted:

"(c) The tuberculosis scheme cannot be regarded as a success; in all probability much better results would be obtained were the existing system of over-lapping control brought to an end and the whole responsibility vested in one public health authority. (d) It is impossible to expect fully satisfactory results from any of the health services unless and until housing conditions, both urban and rural, are improved. * * * *

"The results of the act as regards sanatorium benefit are looked on as disappointing. The problem was largely miscalculated, and the results fall far short of the expectations raised. Better access to early cases and isolation of late and infectious cases are regarded as essential. Most of

the evidence was in favor of handing over the whole treatment of tuberculosis to the public health authorities. Unless housing conditions are substantially improved, which means a large expenditure, 'it is impossible to expect really satisfactory results from any national health insurance scheme.' "

Compare the last quotation with a statement by a prominent labor leader before the National Civic Federation (*Compulsory Health Insurance*, p. 15), as to the improvement in health and longevity of cigar makers and printers in the United States effected through the betterment of sanitary and working conditions:

"What have the trade unions such as cigarmakers and the typographical accomplished in extending the life of their members by improving working conditions? I know of no more striking results than that has been obtained by these two organizations. For example, the cigarmakers: In 1888, 51 percent of their membership were tubercular; in 1911, 21 percent. In 1888 the average age at death of their members in the cigarmakers was 31 years, 4 months and 10 days; in 1911, the average age of their membership at death was 50 years, one month and 10 days. Take the printers: In 1900 the average age at death was 41 years and 3 months; in 1915 the average age at death was 50 years and 4 months—all brought about by improved sanitary and better working conditions, and better hours."

The expense of compulsory health insurance.—Even a casual study of the standard health insurance bill serves to show that the cost of operation will be something enormous when compared to the expenditures which have hitherto been made for public health purposes. Closer study confirms this first impression and although no one can yet calculate the amount it will cost the public purse, there is reason to believe that the state's share alone will be as great, if not greater than its entire expenditure, in normal times, for all the ordinary purposes of civil government.

In the first place, in addition to its normal contribution of 20 percent for benefits, the state is chargeable with the general expenses of administration. The Insurance Commission is authorized to establish as many branch offices, and to employ as many officers, employees and other assistants as may be necessary, all of whose salaries, traveling and other expenses must be paid from the state treasury. In addition to the various commissions, councils, advisory boards, boards of arbitration, and medical officers mentioned in the standard bill there will necessarily be an army of pay-roll inspectors, cashiers, auditors, bookkeepers, claims investigators, work inspectors, branch office managers, collectors, adjusters, stenographers, clerks, etc., etc.

And this is not all; the state itself, either directly or through its subdivisions, is the employer of an army of servants of various kinds, all of whom would come under the operation of the law, and on whose behalf the state would be required to pay the employer's contribution of 40 percent in addition to its normal contribution of 20 percent.

Some estimates of the costs of these various activities have been prepared by William Gale Curtis, an insurance expert of Detroit, Michigan.

His estimates for the State of Illinois, using the state tax of 1915 as a basis, are as follows:

Number of wage earners subject to the law.....	2,400,000
Number of state employees for which the state would pay 40 percent as employer.....	15,000

The State Contribution of 20 percent would be.....	\$11,520,000
Whole cost to the state, including expense of administration.....	12,500,000
Whole cost to employers, wage earners and the state.....	57,600,000
Of this enormous total, the employers would pay.....	35,500,000
The wage earners would pay.....	23,040,000

I have not been able to check these estimates, but considering them in the light of the cost of health insurance in Great Britain, they do not seem wildly improbable.

In a communication from a London correspondent appearing in an American medical publication (*J. A. M. A.*, July 10, 1915, p. 185), it is stated concerning the cost in Great Britain that:

"Experts have calculated that national insurance for the current year will cost the state \$30,300,000, which is no less than \$7,500,000 more than that originally anticipated by the government. This excess * * * arises principally from subsequent additions to the benefits—particularly the medical and sanatorium benefits—and from the concessions granted to contributors falling into arrears with their payments on account of unemployment. The total cost to the state on account of national health insurance for the year is \$37,000,000. It must be remembered that this is quite apart from the contributions payable by the insured persons themselves and their employers. Accounts do not yet show the amounts received in contributions, but it is probable that the total sum will not be much less than \$92,000,000 for the year in question. On this assumption, the total cost to the nation for the national insurance scheme is no less than \$130,000,000.

The burden of proof rests on the advocates of state insurance.—If compulsory health insurance will accomplish what its enthusiastic advocates claim for it—will secure proper medical care and treatment for the classes of wage earners who do not now receive them, will bring about the promised improvement in sanitation and living conditions and the consequent improvement in the general health of the community, and at less expense than other methods which would produce the same results—then as good citizens we are bound to favor the proposition whether it affects our individual interests adversely or otherwise.

However, those who propose changes in civil institutions thereby assume an obligation to show by a clear preponderance of evidence and argument that the proposed changes will accomplish what are claimed for them. When, as is the case with compulsory health insurance, the change will amount almost to a revolution in our industrial system, in the methods of poor relief and in public health activities, and will cause an increase in tax burdens never before heard of except in case of war, it behooves us more than ever to proceed with caution, and to insist upon the fullest consideration of a step which if once taken may be irrevocable, and if unwisely taken may be ruinous.

NOTES ON THE U. S. P. IX AND N. F. IV.*

BY J. P. SNYDER.

The ninth revision of the Pharmacopoeia and the N. F. IV have now been in our hands for nearly a year and pharmacists and chemists are rapidly adapting themselves to the many changes that have been made, in what I may term, official drugs, chemicals and preparations. I say this reservedly, as I understand there is a question whether or not the courts still recognize the U. S. P. VIII and that in order for the ninth revision of the Pharmacopoeia to be recognized, it may be necessary for Congress to pass a law to that effect.

To one who has found it necessary to perform analytical work under the U. S. P. VIII and the U. S. P. IX, it is apparent that there is a decided improvement in the chemical assays of the latter, and although there is no doubt considerable room for improvement with many, there are but very few chemical methods which will not admit of some change, when closely scrutinized. A method which may appear to be ideal to one chemist may contain, in the mind of another, serious errors, which in his opinion may vitally affect his results.

A few years ago I had occasion to examine some resin jalap according to the U. S. P. VIII. The requirements for resin jalap under this revision were, among others, that not more than 35 percent should be soluble in chloroform. After making many different determinations I was led to the conclusion that the amount of chloroform-soluble of resin jalap depended entirely upon the method used, and that from the viewpoint of this requirement, one could decide that the resin either did or did not meet the U. S. P. requirements, according to whether or not he was a "bull" or a "bear."

I called this to the attention of the Revision Committee and was pleased to read the following in the U. S. P. IX, concerning the method for determining the chloroform-soluble:

"Add one gramme of powdered resin to ten mls of chloroform in a stoppered flask and shake the mixture occasionally during one hour; then filter, evaporate the filtrate in a tared dish and dry the residue to constant weight at 100° C. It weighs not more than 0.3 Gm."

Surely, I thought these directions so explicit that no further difficulty would be experienced with the chloroform-soluble of resin jalap. However, in the May issue of the JOURNAL A. PH. A., I read the following from the pen of an exceptionally competent chemist:

"*Resin Jalap.*—The method for determining chloroform and ether-soluble matter are lacking in details. We are directed to add one gramme of the powdered resin to ten mls of chloroform (or ether) in a stoppered flask and shake the mixture occasionally during one hour, then filter, evaporate the filtrate, etc. The operator is left in doubt as to the washing, size of filter to use or any precautions to be observed."

I did not consider these details necessary, but considered them simply a matter of technique, and presumed that no one would attempt to filter the entire mixture, but would take an aliquot part, filtering through a 9 to 11 cm. filter, rejecting the first five or ten Cc. However, this chemist evidently finds the method lacking

* Read before N. Y. State Pharmaceutical Association Meeting, 1917.

in these details a serious objection, which goes to show the difference of opinions that may be held concerning the same method.

I shall endeavor to point out some of the difficulties which we have had with the pharmacopoeial tests and some of the ways and means we have adopted to overcome them.

The Pharmacopoeia directs in the determination of bromides, iodides and chlorides that after the addition of a definite amount of silver nitrate to the weighed sample that the whole be titrated back with potassium sulphocyanide. The latter salt has become exceptionally scarce and at present it is practically unobtainable. We have, however, substituted the sodium salt for the potassium, and so far this has given excellent results in our hands, and I would recommend to any who are unable to obtain the potassium salt that they use the substitute.

Fluidextract Ipecac: The new low alcohol menstruum of the U. S. P. IX is not nearly as satisfactory for exhausting the drug as the menstruum of the U. S. P. VIII; in fact, the former fails to extract but little more than 75 percent of the alkaloid, and with an expensive drug like ipecac, this becomes a very important item. Excessive percolation and consequent concentration produces a large amount of precipitate, which keeps coming down for several months. The standards of at least 1.75 percent for the drug and from 1.8 to 2.2 Gm. per 100 Cc. of the alkaloids for the fluidextract, do not agree. Since no difficulty is experienced in obtaining a drug which will contain at least 2 percent alkaloids, the standard for the drug might be raised to this amount; in fact, I would advise very strongly against accepting any drug that did not at least assay this much.

Crude Drugs: The standard for crude drugs has been raised in both the U. S. P. and N. F., which should lead to a better grade of drugs being offered. Considerable difficulty is experienced in having collectors obtain the part of the drug which is official. They are particularly prone to gather the entire herb, when leaves and flowering tops are specified. In fact, at present, lobelia which meets the U. S. P. description, is unobtainable and only recently we examined a parcel of eupatorium that contained 40 percent stem.

Tincture Ginger: The U. S. P. directs that the tincture should not contain more than 2 percent solids and that when treated with 20 mls of cold distilled water, not more than 15 percent dissolves. The amount of water-soluble from practically every tincture made from U. S. P. Jamaica Ginger is higher than 15 percent. The U. S. P. does not state the length of time the ginger solids should remain in contact with the water, and as the results obtained vary with the length of time the solids remain with the water, it is extremely important that this test should be revised; also the statement that it should not contain more than 2 percent solids, invites adulteration, as it is possible to have a tincture containing $1\frac{1}{2}$ Gm. of solids in each 100 Cc. and to add an equal volume of alcohol, which would reduce the solids to 0.75 and still have them meet the U. S. P. test. The following would probably be good standards and comply with the results of many investigators:

Solids from 1.25 percent to 1.75 percent.

Alcohol about 90 percent.

It may be possible to drop entirely the water-soluble solid test, as the informa-

tion obtained from this is of no practical value if the alcohol is in the neighborhood of 90 percent.

Beef, Iron and Wine: The N. F. gives lengthy tests for solid extracts of beef but gives no test for beef, iron and wine. The Internal Revenue Department requires that the proteid content of beef, iron and wine be at least 1.4 percent. Since the N. F. directs that ammonia be used in making beef, iron and wine, when making the proteid determination it is necessary to take this into consideration and first make an ammonia determination, when calculating the proteid content.

Calcined Magnesia: There appears to be very little upon the market that will fulfill the U. S. P. requirements, as most of it contains an excess of moisture, assays low and yields more calcium than is permitted in the official salt.

Indicators: The Pharmacopoeia also recognizes methyl red in addition to cochineal. Our experience with methyl red is that with practically all alkaloids, results four or five percent low are obtained. However, the end point is much sharper than when using cochineal.

Physiological Assay: The admission into the U. S. P. IX for the first time of biological assays is undoubtedly a step in the right direction and while these assays are, no doubt, far from perfect and will be subject to severe criticism, eventually much good must come from the criticism and we will obtain much better methods for physiological assay.

I wish to point out one thing that is probably peculiar to the State of New York concerning the physiological assays, and which may avoid some difficulty and save money for those who are occupied making physiological tests.

The Pharmacopoeia directs that the frog method be used for determining the activity of several of the preparations—digitalis, strophanthus, etc., but the State of New York has a closed season on frogs, from March 1st to June 1st, and it is unlawful to kill them or possess them during this time without a permit from the Conservation Commission. This may be obtained by applying to the proper authorities and filing bond. The Pharmacopoeia has made two biological methods official, *viz.*, Cannabis and pituitary extract, and has given provisional methods for digitalis, squill, strophanthus, suprarenal glands and aconite. Much criticism has been given the U. S. P. cannabis assay, by several workers who state that the dose is too small to produce incoördination. This should be thoroughly investigated. From our experience we are inclined to believe that a larger dose is not necessary.

For standardizing pituitary, the isolated uterus method is directed and a standard histimine is given with which to compare the extracts. This salt is practically unobtainable except in solution, put up in ampuls or in tablet form, and the activity of different salts vary to a considerable extent. I have received an ampul and a tablet which were claimed to contain the same amounts, which showed over 100 percent difference in activity. Furthermore, it has not been shown that histimine is not subject to deterioration. Histimine is evidently not as satisfactory a standard for pituitary extract as a solution made from dry, defatted gland, as histimine does not possess the well-known physiological property of raising the blood pressure.

For the digitalis series, the Pharmacopoeia directs that the one-hour frog method be used and which yields in the hands of experienced operators good

results.¹⁰ The standard ouabain is also practically unobtainable at present in the United States and it is claimed that it is not uniform. The use of conical glasses and a pipette are unnecessary, as the use of a hypodermic syringe, graduated in 1/100 Cc. is much more convenient and accurate for measuring the preparation.

In the N. F. IV, under Fluidextract Apocynum, we read the following:

"For a method of assaying fluidextract apocynum, see biological assays U. S. P. IX, Part II."

However, in the U. S. P. IX there is no standard given for apocynum, and no reference is made to it. I have been given to understand by one of the members of the Pharmacopoeial Committee, to whose attention I called this, that the committee intended that apocynum was to be standardized by the frog method. He, however, did not know what the standard was to be.

Aconite Preparations: In addition to the chemical assays, the drug and preparation may be physiologically tested upon guinea pigs. No precaution, however, is to be taken to standardize the pigs, and since these animals show a seasonal variation to ouabain, is it not possible that they also do the same toward aconite alkaloids? The *Epitome of the U. S. P. and N. F.*, prepared for the use of physicians, under the authorization of the Council of Pharmacy and Chemistry of the American Medical Association, states that physicians should specify aconite preparations that have been assayed biologically, since the alkaloidal assay is not a reliable index to activity.

Suprarenal Glands: The blood pressure method is recommended and gives very satisfactory results. The method of using both femoral veins instead of one, does not yield as close checks as when the injection is made into the saphenous vein. The standard laevo-methylamino-ethanol-catechol is extremely difficult to obtain.

Ergot: It is to be regretted that the U. S. P. has not provided a biological assay for this drug, as very good results are obtained by the blood pressure method and there is considerable drug upon the market which has very little pressure activity.

THOSE WHO CONTEMPLATE GOING TO PHARMACY SCHOOLS
SHOULD NOT CHANGE THEIR MINDS ON ACCOUNT OF
THE WAR.

President Wilson has clearly pointed out that those who are at work in the school-rooms are serving their country just as surely as those who are already in training camps, or are on the field of battle or are giving their country the benefit of their service as experts. The country at war, and afterward at peace will need the technically trained men more than ever. The cry that the colleges and technical schools shall maintain all their courses and that there should be no falling off in the enrollment at the technical institutes applies to schools of pharmacy with equal force.

SUPPLEMENTAL NOTE ON TESTING OF ETHER.

BY A. B. LYONS.

In the formula published in the June number of the JOURNAL for deducing from specific-gravity determinations the proportions, respectively, of alcohol and water in samples of official ether, there occur two errors which should be corrected with pen and ink in the text.

On page 554, line 6, change Dif. to Dif.′

On page 554, line 7, change Dif.′ to Dif.

The corrected formula will read:

Let Dif. stand for the difference in specific gravity taken accurately at 25° C. before and after dehydration with potassium carbonate, the unit of comparison being water at 25° C.; also let Dif.′ stand for the difference in specific gravity between anhydrous ether and the dehydrated sample. According to Perkins, anhydrous ether on the foregoing basis has a specific gravity of 0.70968. This assumes a mercurial thermometer, no correction being made for vacuum weighings. If one prefers, the temperatures can be adjusted according to the hydrogen scale, and they may be reduced to a vacuum basis, provided the same basis be employed in all the determinations. In such case, of course, the figure given above as the specific gravity of anhydrous ether must be changed.

The formula in any case will read:

$\text{Dif.}' \times 895 = \text{Volume percent of alcohol.}$

$\text{Dif.} \times 185.5 = \text{Volume percent of water.}$

However the percentages in the U. S. P. description of ether are percentages by weight, not by volume. To give the former, the foregoing factors must be changed, so that the formulas become:

$\text{Dif.}' \times 975 = \text{percent by weight of alcohol.}$

$\text{Dif.} \times 260 = \text{percent by weight of water.}$

The results will approximate quite closely to the truth—considering that we are dealing with a fluid which is at once highly volatile and having a large coefficient of expansion by heat.

There remains the question of the exact specific gravity of anhydrous ether. My attention has only recently been called to the determination of this constant made two years ago by E. Mallinckrodt and A. D. Alt, published in the September 1916 issue of the *Journal of Industrial and Engineering Chemistry*. A mean of four determinations gave as the specific gravity *in vacuo* on basis $\frac{25^\circ\text{C.}}{25^\circ\text{C.}}$ (hydrogen scale) 0.70988. The figure seems to be lower than that of Dr. Squibb which again is lower than that of Perkins. I incline to accept provisionally Dr. Squibb's figure, *viz.*, 0.70958 at $\frac{25^\circ\text{C.}}{25^\circ\text{C.}}$ (mercurial scale, not corrected to vacuum equivalent). Reduced to vacuum and hydrogen scale, the figure would be 0.70993, which is very close to the value accepted by Mallinckrodt and Alt, *viz.*, 0.70991.

It is simplest in practice to use uncorrected specific gravities, adopting the value given above as that of Dr. Squibb, *viz.*, 0.70958 for the specific gravity of anhydrous ether.

SECTION ON HISTORICAL PHARMACY, AMERICAN PHARMACEUTICAL ASSOCIATION

MY EARLY EXPERIENCES IN THE DRUG TRADE.*

BY JOSEPH L. LEMBERGER.

Our worthy chairman, with his usual zeal and persuasive influence, has induced the writer to offer a volunteer paper; he indicated the subject but did not hand me copy. I believe he fully expects me to unbosom early experiences in the drug business. I will try not to disappoint him, even though I may stray into some of the later experiences for the sake of history. Contrasts are allowable, as this paper is to be an historic relic. I am carrying my convictions along this thought and purpose unfolding early recollections of a verdant country lad.

When the writer first felt a desire to learn the drug business the *only way open* was to become an apprentice. The advertisement read: "Wanted.—An apprentice to learn the Drug Business. Address, P. Chemist, Ledger Office, Phila."

This advertisement was answered and with my father's aid found the way to the store in Philadelphia. At my age, less than 14 years, the transaction in mind involved submission to being bound by indenture for a term of six years and seventeen days. Before much serious thought was given to the transaction I was put through a rather unpromising examination somewhat of a physical character. I overheard the remark made to my father, "He's a little fellow, I wanted a taller boy," and my father's reply, "You know, doctor, the most valuable goods come in small packages." There was no argument on that point. The next query was addressed to me—"You are from the country, do you speak German?" My father answered for me that I not only spoke, but could read and write the language, having taken up the study of German at school. A German doctor's prescription, just presented, was handed me to translate the directions. I had no difficulty writing in the language "Einen theelöffel voll alle zwei stunden" (one teaspoonful every two hours), and after testing my ability to handle the heavy wood slides, protecting the glass in the doors, a regular duty at closing shop at night, indicating that I had some muscle, I was passed upon favorably as an applicant. With my father at my side helping me to determine the subject I willingly submitted to severance from the home family ties, and enter the family and service of a stranger and new master thereafter, until I would become of age, 21 years. The papers were prepared and duly signed and I became an indentured or bound apprentice, my compensation being board, washing, clothing and the full privileges and cost of the Philadelphia College of Pharmacy included. At that time there was no other college of pharmacy, and I graduated with the class of 1854, two years before the expiration of my apprenticeship. This incident gave my employer the benefit of two years' service of a graduate in pharmacy, at the small salary of board, washing and clothing and *very few* tips or perquisites.

* Read before Section on Historical Pharmacy, A. Ph. A., Atlantic City meeting, 1916.

When I embarked upon the enterprise of learning to be a pharmacist I had at that early period a year's experience in a country general store, which was a commercial advantage and an asset in favor of my employer, as it was easy for me as a country youth to receive and wait upon customers with polite attention, although my previous service had been among Pennsylvania German people, I could readily adapt myself to this new community composed, to a considerable extent, of foreign Germans.

The rules of the drug store governing my relation to new conditions were rigidly impressed upon me. I was soon made acquainted with the various duties devolving upon the apprentice. A fixed set of rules were posted in a prominent place, and I was informed that the closer attention paid to the requirement of said rules the more comfort would I find in the new position.

My first duty was to become well acquainted with my daily routine of work, and it was not long before I fully understood my status as the bottle washer, the daily sweeping of the floor, dusting counter cases, drawers, cleaning the shelf bottles, mopping the floor once and sometimes twice a week, cleaning windows every Friday, also learning the place for everything and putting everything in its proper place.

One of the rules intended to make the right impression was as follows: "Have a place for everything and everything in its place." One of the novelties to this country lad was the opening and closing the heavy window shutters every morning and evening, and placing and removing the slides on outside door front.

I was instructed to familiarize myself with names, taste, smell and color of all drugs, roots, herbs, tinctures and all other preparations. This soon became an inspiring factor when washing and arranging the shelf bottles, especially as I was inclined to be inquisitive and wanted to familiarize myself with all that belonged to the business. The peculiar appearance of a bottle labeled Aqua Ammonia took my attention. I was on a step ladder, requiring that to reach this particular shelf, and taking a smell—you know the result from similar experience; this made an indelible impression, and I have never forgotten the useful lesson taught me, and afterward it was some satisfaction to play the trick on others just as unsophisticated.

I was early taught the value of weights, and the graduate measures, and knowledge of capacity all along the line from a drachm vial to gallon bottle and from the smallest tin box to the gallipots and jars. The specie jar with metal cover was in use at that period. Much care was taken to have me learn to make a neat package, and it soon became my duty to put up epsom salts, senna and manna, in 3 and 5 cent packages, to be ready on call; cut powder papers of various sizes for prescription use and Seidlitz and Soda powder. In the early days I was allowed to be at the prescription case, read and study the prescriptions, and witness the compounding, and ere long was permitted to cut and roll the pills by hand and with the pill machine, the preceptor, or senior clerk, preparing the mass. I had an ambition to do everything I saw others do and after my first year in the college of pharmacy I realized that I was making progress and was permitted to make the more simple preparations of the Pharmacopoeia. During my first and second year a senior clerk was employed; after that time I was considered qualified and under the surveillance of my preceptor, to some extent, to take charge of the store and make most of the preparations. Many pleasant mem-

ories come to me as I review those times, among the number is the association with the three evenings a week during the college course. The tramp of about 2 miles to the college were equivalent to recreation walks. There were no afternoon and evenings for the apprentice, except as a special privilege, at long intervals. Those trips to the college generally included the companionship of other students in that district, and these tramps were often spent in quizzing each other on matters appertaining to the lectures. This quiz feature was found very useful. We had no quiz masters those days as later introduced, and now in vogue in most of the colleges.

The retail drug business of that period was vastly different from what it is to-day, and it is not surprising to hear occasionally that we are losing our identity. Many things are sold in drug stores now, that were not thought of in that day. We generally kept what our customers wanted and in this particular store they sometimes wanted glass and putty and an occasional call for mixed paint and I have a memory of a remarkable fact, that these articles were most frequently called for on a Sunday morning. There were no mixed paints in that day in convenient tins of one-quarter or one-half pound. We had mixed white lead as a base and with aid of chromes, yellow and green, Prussian blue, vermilion, lamp black, we were able to accommodate such calls. There were no side lines, such as a soda water and sandwich counter, cigars and tobacco, confectionery, wash rags, cheap watches, cutlery, safety razors and chewing gum. We did sell good toilet soap, most generally imported white and mottled castile and the highly perfumed Brown Windsor, home made cologne water, and the foreign Farina cologne and a few French extracts for the handkerchief, and we made a specialty of genuine chamois skins and sponges.

The writer was messenger boy and enjoyed the outing when we had a call for something "just out of;" the run down town to Jenks & Ogden, or Charles Ellis & Co., or out to Powers & Weightman was generally an acceptable innovation. No horse or trolley cars then; there were occasional omnibuses, not for the accommodation of the drug apprentice; it was economy to walk; the bicycle was not in use then either. Things are different now, as we all know. I want to emphasize the fact that the drug store of that day was what the patrons expected it to be—a place to get the medicinest hey needed: three cents' worth of epsom salts to the family receipt for cough syrup or the doctor's prescription. We did compound prescriptions with care, as our sign on side of house indicated, and we made all our own preparations, some solid extracts, fluidextracts, tinctures, in the good old way, by percolation. The iron mortar and pestle was in practical use, now seldom seen in the modern pharmacy. The Swift drug mill was also one of my companions. We had no drug millers at that time to prepare the powdered or granulated drugs. We went to the basic thing; if it was tincture of rhubarb, aloes, cinchona, columbo, or any other bitter or aromatic drug, we got busy with the mill or mortar, with the aid of our bolting cloth or wire sieve, made what we wanted, and we did it skillfully and cheerfully, of course. You will agree with the writer that the use of iron mortar and pestle is almost a forgotten art in many modern stores. We powdered all the pulverizable drugs we needed. Your historian well remembers his aversion to aloes and acknowledges the frequent temptation, and sometimes expressed with mild harmless expletives, his feelings, when aloes had

to be powdered and sieved to make tincture of aloes or of aloes and myrrh or *Hiera Picra*, all of which preparations were popular remedies in that day.

This apprentice had an *extra* experience that I venture to affirm few others had. My preceptor was a mechanical genius, as well as a practicing physician and pharmacist. As a sideline he had orders for articulated human skeletons. The bones were obtained from the University dissecting department, where they were carefully boiled, cleaned and dried, presumably by the janitor. By means of a turning lathe and screw cutting device, the necessary work was done by ourselves. Any spare time was occupied in drilling proper holes through the parts, the sternum ribs, vertebra, etc., assembling the bones of the wrist, hands and feet, joining the parts together with fine brass wire. The cranium and vertebra were strung on a heavy brass wire extending through the coccyx, the thorax being completed by wiring the end of the rib to the vertebra on back and the sternum cartilage in front. The lower part from hip bones to feet were joined to the upper part through the middle of hip and the job was completed. Of course, you wonder how such preparation, so foreign to the retail drug business, found sale. When finished, they were easily packed in short boxes, as the arms were hinged at the elbow and the legs at the knee, and when ready for the market were delivered to a manufacturer of all kinds of secret society paraphernalia and are, or were no doubt used in secret society initiation ceremony. I never learned that as a fact, but have received that impression in later years. We never exhibited the anatomical specimens in the show windows, nor did the apprentice know the price received for them.

We also had another innovation; my preceptor had all necessary moulds for making fireworks and we were skilled in the art of making sky rockets and Roman candles for the Fourth of July celebration. These extra experiences did not demoralize the business nor the apprentice; on the contrary were personally useful and educational. Many changes have taken place since that period and I want to refer to a few things in conclusion, incidental to later times, the present age. Animal fats were rarely called for in our store. We did sell bear's grease and dog fat, while at the present time we are expected to have polecat fat (or skunk fat), rabbit fat, opossum fat, goose grease, rattle snake fat or oil, weasel skin, eel skin, and because we country druggists are supposed to have almost everything wanted in the line of remedies for all sorts of ills, it was quite natural for an old lady living about ten miles up the pike, for whose rheumatism some friend had recommended the use of the skin of a rattlesnake as a bandage, to write to us for the remedy, as she was informed that she "could get any kind of remedy at Lemberger & Company's drug store in Lebanon." On receiving this very complimentary letter we replied that we had none on hand but it was possible for us to send her the article in a week or ten days, as we knew a person who hunted for rattlesnakes and prepared the skin and the oil for sale. The man was a truck farmer living near the Blue Mountain, and came into the store next day, being market day. He informed us that he had none on hand, but expecting to go to the mountain for berries the coming week, believed he could promise one by next market day, and true to his word, next Saturday morning, imagine our surprise when he left a package and on opening we discovered a glass covered box with a three-foot rattler confined therein. We very cautiously handled that package, and soon our friend informed us that the catch was made too late the day before to skin and clean the

reptile, and as he had promised to bring us a rattlesnake skin he wanted to make good. We objected to dealing in a strange art; we wanted the skin without the snake. He enjoyed his joke and satisfied with the explanation, he took the snake home, killed, skinned and prepared the fat and, having caught another in the interim, we had an option on two with rattles in place, complete on both, as well as the fat, or so-called rattlesnake oil. Our old lady friend got the skin she wanted, paid the price and we hope she was cured.

Incidents *ad infinitum*, serious, comic and otherwise, might be incorporated in this historic paper. It has been extended sufficiently, I feel sure, and, I trust will suffice to make good my promise to our friend, the chairman.

THE FINANCIAL AND ACCOUNTING SIDE OF THE DRUG STORE.*

BY E. FULLERTON COOK, P.D.

Bookkeeping in a retail drug store is not a popular subject because there is usually enough other work to be done which forces itself upon those in the store and shows immediate results, while accounting is looked upon by many as a luxury and not a real necessity.

Furthermore, the proprietor of the usual drug store, who would have to keep his own books, feels that the kind of bookkeeping which will give the facts so often talked about to-day, *i. e.*, percentage relations between sales, "first cost," expenses and net profit, "overhead," gross profit, etc., is too complicated for his use.

Bookkeeping naturally falls into two distinct divisions: First, that which provides the necessary records for the accounts of credit customers; and, secondly, that which is specifically for the benefit of the proprietor of the store.

Every store which does any credit business is compelled to carry on the first type in a more or less perfect fashion, but it is the second type of accounting that I especially wish to discuss, and urge the adoption of.

Double entry methods are generally those recommended for securing these guiding facts for business, but fifteen years of teaching double entry has demonstrated the futility of expecting its adoption in the average drug store. This condition stimulated the development of an accounting scheme which would not involve a large amount of work or special training, and yet would yield figures and facts comparable in value with those from double entry books.

This plan requires a daily record, for which a special form was devised (See Fig. 1). Here are recorded the daily cash and credit sales, either in total or classified as desired; also the petty cash expenditures of the day, each followed by a classifying word, such as "Lemons 40 cents, soda" (the "soda" to indicate that the lemons are charged to the soda supplies), and at the bottom of the sheet a simple form for determining the theoretical "cash balance" for the day.

The bank account is kept on the opposite side of the sheet (See Fig. 2), the checks drawn being recorded here in detail instead of on the check book stub, as is usually done. Through this plan the record becomes a part of the books of accounts, while the bank balance is determined each day and with less work than

* Read at the meeting of New Jersey Pharmaceutical Association, 1917.

[illegible]

FIG. 3

What are the advantages of having such figures? First, from month to month they give the proprietor a comparison with the business of the same month last year, and indicate the advance or falling off in the business—a desirable bit of information.

YEARLY SUMMARY 19																	
ASH RECEIPTS										ASH PAID OUT							
Month	Receipts from Sales		Date	Class	Cigar	Telephone	Misc	Inbox Sales C	Total Cash (Excludes Receipts)	Cash Receipts Excludes Sales	Inbox Receipts Excludes Sales	Total Sales C	PAID OUT FOR				
	Cash	Receipts											Excludes Sales	Sales	Cigar	Telephone	Misc
Jan.	1134.50	28.18	48.00	185.15	79.10	18.44			1489.58	30.10		1489.78	81.17	18.18	120.95	551.88	1172.73
Feb.	1170.00	22.74	34.11	135.00	11.80	20.10			1516.95	20.15		1516.80	79.01	15.18	83.15	623.00	1333.94
Mar.	1589.75	32.18	55.15	260.12	79.75	19.04			1884.71	24.40		1884.95	79.81	17.12	87.14	921.94	1563.01
Apr.	1134.76	23.58	30.10	202.12	55.15	22.00	2.10		1518.15	18.40		1518.25	90.40	15.10	92.40	26.40	1469.15
May	1035.81	24.12	50.10	230.50	85.20	25.11			1381.44	19.40		1381.64	118.11	15.12	119.10	32.10	1323.24
Jun.	335.15	23.00	195.95	240.10	91.60	21.40			553.70	16.14		553.84	17.00	108.00	61.10	21.14	91.14
Jul.	800.01	19.11	281.50	222.18	101.20	25.15			1357.70	18.60		1357.90	108.00	108.00	15.00	72.40	901.10
Aug.	770.47	18.10	510.25	381.40	115.00	46.20			1585.89	25.45		1586.34	132.12	18.12	131.10	75.40	952.14
Sep.	1015.00	24.00	181.10	375.10	71.10	28.40	1.90		1595.50	21.15		1595.65	120.10	18.10	120.10	68.10	1375.15
Oct.	1111.18	30.15	639.15	360.15	15.15	21.10			1747.43	14.40		1747.57	775.40	26.10	120.15	61.40	972.14
Nov.	1131.45	21.45	48.70	375.41	75.85	23.15			1604.63	42.55		1604.83	855.30	20.15	142.18	55.88	1058.11
Dec.																	
TOTAL																	

PERCENTAGES						PROFIT FOR YEAR ENDED 19					
	Percentage Receipts	% Soda	% Candy	% Cigars	% Total		A. Total Sales (Column 13)				
Total Annual Sales	100		100	100	100		B. Income from Cash of Year				
Total Cost of Goods							C. Expenses First of Year				
Total Expense							D. Total Purchases (Cash & Credit)				
Net Gain							E. Gross Profit (C-F)				
							F. Total Expenses (Column 13)				
							G. High Profit (E-G)				

FIG. 4

Secondly, having determined the relationship maintained during the preceding year between expenses and sales, the proprietor can determine each month whether this ratio is being continued. If it changes materially, especially if the percent for expenses begins to increase to any marked degree, he is warned in time

YEARLY SUMMARY 19																								
CASH PAID OUT (Continued)																								
Month	Real	Charge	Insurance	Light	Heat	Office Expenses	Advertising	Telephone	Freight	Sales	Taxes	Wages									Total Expenses and Wages	Interest	Total Cash Paid Out for Services	Balance
	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Jan	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	Jan
Feb	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	Feb
Mar	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	Mar
Apr	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	Apr
May	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	May
Jun	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	Jun
Jul	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	Jul
Aug	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	Aug
Sep	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	Sep
Oct	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	Oct
Nov	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	Nov
Dec	50.00	2.00	45.50	14.50	15.00	4.00	88	1.00	15.00	15.00											44.50	278.50	1985.00	Dec
Total																								
STATEMENT OF RESOURCES & LIABILITIES YEAR ENDED 19																								
RESOURCES												LIABILITIES												
Cash												Accounts Payable												
Notes												Notes Payable												
Real Estate																								
Stocks																								
Other Assets																								
Total Resources												Total Liabilities												
MONTHLY SUMMARY OF CASH ACCOUNT																								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Total Balance End of Month	118.50	181.50	244.50	307.50	370.50	433.50	496.50	559.50	622.50	685.50	748.50	Total Receipts (Column 4)	118.50	181.50	244.50	307.50	370.50	433.50	496.50	559.50	622.50	685.50	748.50	
Total Cash	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	Total Cash	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	
Less Total Paid (Column 5)	118.50	181.50	244.50	307.50	370.50	433.50	496.50	559.50	622.50	685.50	748.50	Less Total Paid (Column 5)	118.50	181.50	244.50	307.50	370.50	433.50	496.50	559.50	622.50	685.50	748.50	
Cash Balance End of Month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Cash Balance End of Month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
REMARKS: A Extra m. p. during vacation of Dept. Manager at \$10.00																								
Total m. p. 2000. May 25 \$10.00 per month, 12 months, \$120.00																								

FIG. 5

of a serious menace to the profits of the year. This will at once suggest a study of the detail which is spread before him on the sheets. It means that sales have decreased or that expenses have exceeded the normal.

If expenses are increasing he can see, through the analyzed record, exactly where this increase occurs. If it is light that is costing more than last year for the same month, he can take the necessary steps to correct this loss. It may be that some one is allowing the cellar lights to burn unnecessarily, and he can install a small light by the desk or prescription counter which will always burn when the current is turned on in the cellar, and indicate unnecessary waste of light; or perhaps he can replace a number of small lamps with one large lamp, and thus save unnecessary expense.

If, on the other hand, he finds that the expenses are not increased, but the percent is larger only because of decreased sales, several causes may be suggested and can possibly be remedied. The first thought is that perhaps some employee is pocketing the cash, or perhaps sales have actually lessened and need stimulation from efficient advertising. The use of this relationship between sales and expenses to suggest theft in a store is being used by many business men. Of course, it will not show the taking of a cigar, or a dollar bill, but would quickly indicate any theft that would prove a serious loss.

If the percent relation last year was:

Sales.....	100 percent
First cost of goods.....	65 percent
Expenses.....	25 percent
Net profit.....	10 percent
Then if the inventory Jan. 1st was.....	\$ 7,000.00
And goods bought since Jan. 1st, cost.....	3,000.00

The total value would be.....	\$10,000.00
Now the sales since Jan. 1st are.....	\$4,600.00
and goods sold cost 65 percent of \$4,600.00, or.....	\$ 2,990.00

Therefore, the present inventory by calculation (using the law of averages) would be..... \$ 7,010.00

Third, these figures may be used at any time as the basis for a calculated inventory. If an actual physical inventory has been taken at some date within a reasonable time and the relationship between the cost of goods and sales for the preceding year has been determined accurately, by now adding to the inventory the cost of goods bought since the inventory was taken, and subtracting from it the estimated cost of goods sold since the actual inventory, the result will indicate approximately the present value of stock. The illustration on p. 724 will show the possibility of such a calculation.

Therefore, it will be seen that, even without drawing any other conclusions at the end of the year or other definite period, records of this type are of great value to a business man, in enabling him to control his business. However, it is possible to arrive at other very definite conclusions which every business man should know at stated intervals.

First: What is the actual net profit obtained from a business of any one year? This is arrived at theoretically by subtracting the cost of the goods bought from the total sales, thus ascertaining what is called the gross profit. From this must then be subtracted the total expenses, the resulting figure indicating the net profit from the business. Sometimes the expenses exceed the gross profit, when the business man must face the fact that he has conducted the business at a loss during the period covered by the figures.

The statement just given concerning the method of arriving at net profit is slightly complicated by the necessity of introducing inventory figures to show the value of goods on hand at the beginning of the period covered by the records, and at its close. By this means the cost of goods sold is corrected to make an allowance for any increase or decrease in the stock on hand when the books are closed. If this correction was not applied the stock might be greatly depleted and a false showing of profit indicated, or, on the other hand, a loss might be shown when in reality the profits of the year had been consumed by an increased stock.

Now, having determined that there is a definite net profit, or perhaps loss, it is necessary to prove that this is true. If the books show a \$2,000.00 profit after all expenses have been paid, how is the proprietor to know that this is true? It may be that there is only \$500.00 cash in bank, and he may have a number of obligations unpaid. It now becomes necessary, therefore, to assemble all the resources at his command, and also every liability standing against him, and thus show by actual assemblage of the facts that his resources do exceed his liabilities by the sum indicated on his books as profit.

He, of course, first considers any cash on hand, either at the store, or in bank, as resources. Then his inventory must be taken into account. First: Stock of merchandise, or any other salable goods; then his fixtures, including soda fountain, if this is in the store. Then any stock of coal, office supplies, such as bill heads, envelopes, letter paper, etc., any paid-up insurance policies or other securities he may hold. Good-will is also at times considered among his resources, although it is not believed to be a desirable asset to consider among definite resources, because it is not possible to realize any cash upon this asset until the owner of the store has actually sold his good-will for cash.

This brings up the question of depreciation. Depreciation should be allowed on fixtures, the soda fountain, buildings, good-will, etc. This is in accordance with

conservative and approved business practice. A depreciation of five percent yearly may be estimated on fixtures until the value is reduced to a point which becomes relatively permanent, and for which the fixtures could be sold, even though twenty years old. The justice of this custom is based on the fact that fixtures which are bought for a certain sum could not be sold the next year for as much as the original purchase price, and, therefore, it would be a false basis for resources if carried at the full cost. Each year the depreciation becomes greater, and the five percent basis is arrived at from an estimate that within at least twenty years new fixtures must be installed. In the case of the soda fountain ten percent depreciation is allowed, based upon a new soda fountain in ten years. This depreciation figure, which comes out of the profit, each year could wisely be put into a sinking fund, so that if new fixtures are to be furnished, the money will be on hand without calling for new capital.

Depreciation in "good-will" is open to argument and difference of opinion. A twenty percent depreciation each year for five years is based upon the belief that the good-will of any former proprietor, for which you may have paid a definite sum, will have entirely disappeared within five years. Therefore, the extra business because of his good-will—for which you have paid cold cash—should be great enough in the five years following the purchase to pay back the amount given for the good-will.

You may say that as his good-will disappears yours will increase and the good-will valuation is maintained at its original value, but this is not a tangible asset. A serious mistake in the store, causing the death of a customer, would wipe out this asset over night. It is considered to be a conservative management that does not estimate the good-will as an asset until it is actually sold and the money secured. It may then be a pleasant surprise, and of course the man selling the store should endeavor to obtain the highest possible price for his good-will.

In addition to the resources already named, all customers' unpaid accounts, and any notes receivable, or promissory notes given by debtors or any other value held by the business, such as delivery wagons, motorcycles, bicycles, etc., should be included. This total value is added and represents the total resources. With reference to customers' unpaid accounts, if any of these are uncollectable, they should be assembled and considered as an expense of that year's business, and must be deducted from the gross profits.

The liabilities are now assembled. The most important ones are unpaid invoices for merchandise or stock purchased and any notes which you may owe, either to parties from whom money was borrowed to start business, or to the wholesale house, or any other obligations. The sum of these represents the total liabilities.

Now it will be possible to prove the accuracy of the net profit indicated by the books. If the total liabilities, plus the capital at the beginning of the year, plus the net profit indicated for this year, exactly equal your total resources, the books are proven to be correct, and you can show to the bank or any creditor, or any mercantile agency or the income tax collector, an exact and authentic statement of facts concerning your business, which, if creditable, should do much to establish your standing as a business man.

Now, having determined these important facts about the year's business,

another statement should be prepared. This consists of an analysis of the relationship between the goods sold for the year, the cost of goods that year, the total expenses, and the net gain.

The total sales are taken from the records kept. The net profit is that indicated on the profit statement. The total expenses have also been assembled, and the figures are placed in this new statement. If now the expenses and the net profit are added, and this total subtracted from the annual sales, the difference will indicate the cost of goods sold that year. The sales are now shown as 100 percent, and *this is the only basis for satisfactory calculation*, because on this basis it is possible to arrive at definite relationships for the annual business, which can be compared from day to day throughout the entire succeeding year, the sales and expenses always being definite figures which may be known daily. This basis for calculation and percent is almost universally adopted to-day in the business world.

The relationship now of the first cost of goods to sales is determined on the percentage basis; then the relationship of expenses to sales; and, lastly, the relationship of net gain to sales. Ideal figures for most businesses are believed to be an average of about 65 percent for first cost of goods; 25 percent for expenses, and 10 percent for net profit. If the figures for any one year do not show something like this relationship the business man may take the necessary steps to bring about a more satisfactory ratio.

If the net profit is greater than indicated here, of course there is no need for concern. The proprietor is very fortunate. However, if the expenses are much higher in their percent relationship to sales, and net profit much lower, the proprietor has the necessary evidence to stimulate his efforts towards readjustment. It means that he will have to reduce expenses if that is practicable. A study of these may show him where some expense is excessive. On the other hand, he may find that the expenses cannot be reduced. Then he has the alternative of increasing the sales, which would materially reduce the percent relationship of the expenses, if he was not compelled, because of the increased sales, to add proportionally to the expense of the business. In almost every business, up to a certain point, more goods could be sold without greatly increasing the expense because most of the fixed costs would remain the same, such as rent, light, heat. There would probably be some increase in advertising, and possibly in salaries.

Of course he may improve the situation by eliminating goods which are showing small profit, or even loss, and replace them by more profitable merchandise; or perhaps, he is not closely watching the cost of regular goods, and that by more careful buying, or buying under different conditions, he may largely increase the margin of profit between first cost and the selling price, the latter being often fixed by the buying public and trade conditions, and not easily changed.

He is also in possession of figures which indicate to him the exact value of every sale. He is awakened to the fact that many articles that he has been selling freely have actually been passing over his counter at a loss. If wise he will endeavor to curtail such sales, only permitting those which are actually necessary to please customers, and will, on the other hand, select merchandise which gives a reasonable profit, and advertise and sell these in preference to the less profitable lines.

He will also recognize the importance of adding an adequate profit to the cost of professional work. In other words, by knowing these figures, the proprietor will gain a control of his business, which had not been possible heretofore, and which he will utilize to insure definite and dependable profits, and actually know from month to month whether the business is profitable or otherwise.

In determining the percentage relationship of sales, total cost of goods, expenses, and net gain in any one department, such as the soda fountain, candy sales, or cigars, the ordinary retail drug store is somewhat handicapped because of the difficulty of appropriating properly the general expenses. Purchases, of course, can be kept separate, and some expenses will be assigned definitely to a special department, such as laundry, or special clerks, but the division of rent, light heat, etc., among the several departments calls for good judgment and some study in each store. The floor space required for each department is usually the basis for this division of expenses. The front part of the store must bear the larger percentage. Of course, many stores to-day are introducing attractive features which compel the customer to visit the rear of the store. A sub-station post office in the back of the store, or telephone booths are especially effective.

Sometimes the front of the store, back one-fourth, would be expected to bear at least one-half the general expenses. The second fourth of the sales room would carry one-fourth of the expenses, while the last half of the sales room would be expected to pay the remaining expenses. Thus if the soda fountain was in the front of the store it would be expected to pay its share of the expenses in the ratio indicated. If half-way back, though occupying no smaller space, it would pay much less. Of course, this ratio must be determined by each man, and upon this the actual net profit in any one department determined.

Finally, it has been demonstrated by ample experience, that facts, such as these here referred to, concerning a business, if available, give a satisfaction and control to the proprietor which amply justify the comparatively small amount of labor required, and changes the business from a guess to a definite profit-making machine, the control of which is in his hands to manipulate almost as he will.

While special forms are here suggested the principle they represent may be applied by a business man through the use of columnar record books which may be bought at any stationer's.

PHARMACEUTICAL FORMULAS

PROPOSED FOR A. PH. A. RECIPE BOOK.

A complete list of these Proposed Formulas since February 1912 was published in an index in the December 1916 number of the JOURNAL. The Committee will continue its work in monthly instalments in this Department of the JOURNAL. Members of the A. Ph. A. are earnestly requested to send suitable formulas and also criticisms of those published to the Chairman.

Otto Raubenheimer, Brooklyn, N. Y.

No. 587.

EURESOL HAIR POMADE.

A.

White Ceresin.....	25 Gm.
Coconut Oil.....	75 Gm.
Euresol pro Capillis.....	5 Gm.

Melt ceresin and coconut oil and when cool add euresol.

Ceresin has a higher melting point than paraffin.

Coconut oil must not be confused with cacao butter or oil, the official *Oleum Theobromatis*, which melts at body temperature and is therefore used in suppositories, etc.

Coco alludes to the coconut tree or coconut palm, botanical name *cocos nucifera*, which is indigenous in the tropics. This palm has a branchless stem, 60 to 90 feet high, above which are feather-like leaves, 18 to 20 feet long, at the base of which hang the fruits in clusters of 12 to 20. From the kernel of the coconut, the coconut oil is expressed, which is liquid during warm weather, but a solid during the cool seasons. This oil is largely used in the preparation of soap and also for massage treatment.

B.

Euresol.....	5 Gm.
Unguentum Pomadinum.....	45 Gm.

Mix. Rub thoroughly into the scalp.

Contributed by the Chairman:

No. 588.

UNGUENTUM POMADINUM.

Pomade Ointment.

Unna.

Oil of Theobroma.....	10 Gm.
Expressed Oil of Almond.....	20 Gm.
Oil of Rose.....	1 drop

No. 589.

PIN'S COUGH MIXTURE.

Paregoric.....	
Syrup of Ipecac.....	
Spirit of Nitre.....	
Syrup of Squill.....	equal volumes....

A favorite household cough remedy. The letters P, I, N, S stand for the first letters of the 4 ingredients.

No. 590.

RED INK.

Eosine.....	8 Gm.
Glycerin.....	8 mils
Water.....	500 mils

An excellent ink and cheap. For particulars about Eosine consult U. S. P. IX, p. 531.

No. 591.

TOOTH POWDER.

N. Y. Health Board.

Powdered Orris Root.....	4 Gm.
Powdered Castile Soap.....	15 Gm.
Precipitated Chalk.....	60 Gm.

The Department of Health of the City of New York wisely recommends this formula, but very unwisely fixes the price at 15 cents for above quantity.

No. 592.

CONFECTIO LAXATIVA.

Laxative Confection.

Household Physic.

Prunes.....	
Dates.....	
Seedless Raisins.....	
Figs, of each.....	120 Gm.
Senna.....	30 Gm.

Remove seeds from prunes and dates, mix all the ingredients and pass through a meat chopper to produce a uniform paste. A simplified modification of the old Confection of Senna. Keep in a well covered jar in a cool place.

Dose: 1 to 2 teaspoonfuls at bedtime.

No. 593.

LIQUOR CAPSICI COMPOSITUS.

Linimentum Capsici Compositum.

Ph. Aust. VIII.

Capsicum, ground.....	
Black Pepper, ground, of each.....	100 Gm.
Soft Soap.....	
Camphor, of each.....	25 Gm.
Alcohol, 90%.....	800 Gm.
Eugenol.....	
Oil of Rosemary, of each.....	5 Gm.
Oil of Cinnamon.....	1 Gm.
Ammonia Water.....	200 Gm.

Macerate the first 4 ingredients in the alcohol during 8 days, then express and filter and add the other ingredients.

No. 594.

ORRIS ROOT AND CHALK.

Powdered Orris Root.....	10 Gm.
Precip. Calcium Carbonate.....	90 Gm.

Mix. A very popular tooth powder, which can be flavored.

No. 595.

LINIMENTUM CAPSICI COMPOSITUM.

Pain Expeller.

Lux.

Ammonia Water.....	
Oleo-Balsamic Mixture N. F.....	
Spirit of Camphor.....	
Soap Liniment, of each.....	150 Gm.
Tincture of Capsicum.....	100 Gm.
Alcohol, 90%.....	300 Gm.
Tincture of Caramel, N. F., sufficient to color	

No. 596.

AQUA DENTIFRICIA DR. PIERRE.

Tinctura Dentifricia.

Eau Dentifrice du Dr. Pierre.

Lux.

Star Anise, bruised.....	7.5 Gm.
Oil of Peppermint.....	
Oil of Star Anise, of each.....	25.0 drops
Scarlet Red.....	0.01 Gm.
Alcohol, 90%.....	100.00 Gm.

Macerate for about a week and filter. This preparation has a different tint than Formula No. 122, The JOURNAL, March 1916, p. 310, in which Red Saunders is used as a coloring agent.

No. 597.

TINCTURA SANTALI RUBRA.

Tincture of Red Saunders.

E. B.

Red Saunders, powdered.....	100 Gm.
Alcohol, 90%.....	500 Gm.

No. 598.

ESSENTIA DENTIFRICIA BOTOTI.

Botot's Dentifrice.

E. B.

Orris Root, cut.....	50.0 Gm.
Cassia Cinnamon, ground.....	
Star Anise, bruised.....	
Clove, bruised.....	
Galangal, N. F., cut, of each....	25.0 Gm.
Cochineal, powdered.....	10.0 Gm.
Tannic Acid.....	5.0 Gm.
Oil of Peppermint.....	10.0 Gm.
Balsam of Peru.....	5.0 Gm.
Coumarin.....	0.1 Gm.
Oil of Neroli.....	0.75 Gm.
Oil of Rose.....	0.5 Gm.
Diluted Alcohol, 68%.....	1000.0 Gm.

Macerate during 3 days, express and filter.

See also Eau de Botot, Formula No. 451, The JOURNAL, March 1917, p. 298.

No. 599.

ESSENTIA DENTIFRICIA CUM ACIDO SALICYLICO.

Salicyl-Vanillin Dentifrice.

E. B.

Oil of Peppermint.....	2.0 Gm.
Oil of Cinnamon.....	0.5 Gm.
Salicylic Acid.....	2.5 Gm.
Vanillin.....	1.5 Gm.
Tincture of Red Saunders.....	50.0 Gm.
Alcohol, 90%.....	500.0 Gm.
Water, a sufficient quantity,	

To make..... 1000.0 Gm.

No. 600.

ESSENTIA DENTIFRICIA CUM SALOLO.

Salol Dentifrice.

Odol Substitute.

E. B.

Oil of Caraway.....	
Oil of Clove, of each.....	0.4 Gm.
Oil of Peppermint.....	5.0 Gm.
Saccharin.....	0.04 Gm.
Salol.....	25.00 Gm.
Tincture Red Saunders.....	50.00 Gm.
Alcohol, 90%, a sufficient quantity,	

To make..... 1000.00 Gm.

No. 601.

ESSENTIA DENTIFRICIA CUM THYMOL.

Thymol Dentifrice.

E. B.

Thymol.....	1 Gm.
Botot's Dentifrice.....	99 Gm.

No. 602.

PASTA DENTIFRICA KALII CHLORICI.

Pasta Dentifrica Potassii Chloratis.

Unna's Potassium Chlorate Tooth Paste.

Lux.

Potassium, Chlorate, powdered.....	5 Gm.
Precipitated Chalk.....	
Orris Root, powdered.....	
Soap, powdered.....	
Glycerin, of each.....	25 Gm.
Oil of Peppermint.....	20 drops

The quantity of glycerin will be governed by the density of the precipitated chalk, that is, sufficient has to be used to make paste.

See also remarks under Formula No. 379, The JOURNAL, December 1916, p. 1399.

No. 603.

BALNEUM SULPHURATUM INODORUM.

Odorless Sulphurated Bath.

Bains Sulfureux Sans Odeur.

Sulfurine.

Lux.

Sodium Carbonate, dry.....	92 Gm.
Sublimed Sulphur.....	4 Gm.
Potassium Chromate.....	1 Gm.
Distilled Water.....	3 mls

Dissolve potassium chromate in the water and mix well with other ingredients. Then melt the mass in a covered crucible, which is only about half filled. Pour the fused mass on a cold marble slab, and after cooling break the finished product into pieces and preserve in well closed bottles.

No. 604.

BALSAMUM MAMMILLARE.

Nipple Balsam.

Lux.

Benzoic Acid.....	1 Gm.
Tannic Acid.....	5 Gm.
Glycerin.....	5 Gm.
Alcohol.....	20 Gm.
Rose Water.....	75 Gm.

Dissolve and filter.

No. 605.

NIPPLE WASH.

Dr. Thomas.

Alum, powdered.....	30 Gm.
Tincture of Nutgall, N. F. IV.....	30 mls
Triturate well.	

No. 606.

PULVIS HAEMORRHOIDALIS.

Hemorrhoid Powder.

E. B.

Calcined Magnesia.....	
Washed Sulphur.....	
Potassium Bitartrate.....	
Senna, powdered.....	
Sugar, powdered.....	equal parts
Mix well.	

A modification of Compound Licorice Powder, well adopted to regulate the bowels in piles or hemorrhoids.

No. 607.

OLEUM NIGRUM.

Black Oil. Farrier's Oil. Currier's Oil.
Fuming Oil.

Oil of Turpentine.....	
Linseed Oil, of each.....	500 mls
Sulphuric Acid.....	30 mls

Mix the oils and *gradually* and *with constant stirring* add the sulphuric acid. Great care must be used when the sulphuric acid is added, and the operation is best conducted in an open vessel.

Used as a liniment in veterinary practice. The quantity of sulphuric acid is sometimes increased or decreased according to the desired counter-irritant effect.

No. 608.

OLEOSACCHARUM CUMARINI.

Elaeosaccharum Cumarini.

Saccharum Cumarini. Coumarin Sugar.

D. M.

Coumarin.....	1 Gm.
Sugar, in fine powder.....	999 Gm.

Triturate well and keep in tightly stoppered bottles.

No. 609.

OLEOSACCHARUM VANILLINI.

Elaeosaccharum Vanillini.

Saccharum Vanillini. Vanillin Sugar.

D. M.

Vanillin.....	3 Gm.
Sugar, in fine powder.....	97 Gm.

Triturate well and keep in tightly stoppered

bottles. Vanillin Sugar has the same flavoring power as a 10% *Vanilla Sugar* or *Oleosaccharum*. Besides this, it is colorless and more permanent.

For household use it can be dispensed in bottles bearing the following directions:

"Add a small amount of Vanillin Sugar to the food or drink, sufficient to impart the desired Vanilla odor or taste."

Contributed by John K. Thum, German Hospital, Philadelphia.

No. 610.

WRIGHT'S SOLUTION.

Wright's Antiseptic Solution.

Wright's Surgical Solution.

Sodium Citrate.....	10 Gm.
Sodium Chloride.....	40 Gm.
Distilled Water.....	1000 mls

Dissolve, filter and sterilize by boiling for half an hour.

This solution bears the name of Dr. Wright, an eminent British Surgeon. It is a mildly alkaline antiseptic and is used as a wet dressing for wounds to prevent clotting and thereby promote free drainage, a very desirable feature in badly infected wounds.

This surgical dressing must not be confused with Wright's Solution, Formula No. 557, published in *THE JOURNAL*, June 1917, p. 565, which is a Solution of Gold and Arsenic Bromide, about twice the strength of the N. F. solution with the same name.

Mr. Thum very correctly remarks that pharmacists must be careful not to dispense one solution for the other, as more or less disaster would result. For this reason, the Chairman suggests that the above solution should be designated as Wright's Antiseptic or Surgical Solution. After all, it is one of the chief duties of the dispensing pharmacist to use the utmost care in order to safeguard the patient. This is also an excellent illustration of the importance of the work of the Committee on A. Ph. A. Recipe Book and the necessity of clearing up the existing confusion in various formulas.

Contributed by Wm. Gray, Presbyterian Hospital, Chicago:

No. 611.

SENN'S SOLUTION.

Iodine.....	10 Gm.
Potassium Iodide.....	10 Gm.
Distilled Water, a sufficient quantity,	
To make.....	1000 mls

This solution is named after the famous Chicago surgeon, Nicolas Senn.

No. 612.

UNGUENTUM ALBUM.

White Ointment.

Zinc Oxide.....	100 Gm.
White Wax.....	25 Gm.
Phenol.....	2 Gm.
White Petrolatum, a sufficient quantity,	

To make..... 500 Gm.

A nice looking healing ointment, quite generally used by Chicago surgeons.

No. 613.

GRAY'S COUGH MIXTURE.

Ammonium Chloride.....	60 Gm.
Diluted Hydrocyanic Acid.....	8 mls
Chloroform.....	6 mls
Syrup Wild Cherry.....	500 mls
Syrup Lactnecarum, a sufficient quantity,	

To make..... 1000 mls

Contributed by Aug. Diehl, Brooklyn:

No. 614.

SYRUPUS ERIODICTYI.

Syrup of Yerba Santa.

Fluidextract Yerba Santa.....	30 mls
Potassium Carbonate.....	6 Gm.
Water.....	15 mls
Syrup, a sufficient quantity,	

To make..... 500 mls

Mix the alkaline solution with the fluid-extract and add the syrup.

Note! In some localities this syrup is extensively used, especially in bronchial coughs. It should not be confused with Aromatic Syrup of Yerba Santa, N. F., which is weaker, and which is employed as a vehicle for bitter medicines, especially quinine.

PROCEEDINGS OF THE LOCAL BRANCHES

NASHVILLE.

The regular monthly meeting of the Nashville Branch of the American Pharmaceutical Association was held in joint session with the Nashville Drug Club Thursday, July 19, when D. J. Kuhn presided.

The minutes of the previous session were read and approved. D. S. Sanders, chairman, of the committee appointed to look into the matter of mail order houses doing business in Tennessee without paying taxes, reported that attorneys had been employed by both parties to the question and that a test case will be made.

Attorney W. F. Davis spoke of the effort he is making to have the Tennessee Board of Equalization allow an exemption of \$1000 on state taxes, as provided for by the constitution.

Doctors J. Witherspoon and C. F. Anderson, a committee of the Nashville Academy of Medicine, came before the meeting and stated that there was no drug store in Nashville that kept open all night, and that this was working a hardship on the public. In a discussion that followed, several in attendance stated that they had endeavored to keep their stores open all night, but the expense did not warrant their continuing to do so. C. W. Jennings consented to give the plan a trial.

Messrs. S. C. Davis and D. S. Sanders

directed attention to the many recent advances in the prices of proprietaries and patent medicines, which in their opinion necessitated an advance in prices by the retailers. Messrs. M. C. Hutton and D. J. Kuhn stated that these conditions presented an opportunity for pharmacists to push their own line of preparations.

It was reported that unusual demands had developed since the enforcement of the State Bone Dry Liquor Law for bay rum, essence of Jamaica ginger and flavoring extracts. It was the unanimous opinion that such business should be carefully watched and if illegal use was being made, such sales should be turned down.

As a result of the indictment of a number of local ice manufacturers and dealers under the anti-trust laws, the price of ice in Chattanooga was immediately reduced and it was hoped that the same effect would result in Nashville.

The Nashville Drug Club voted to have a boat ride for the membership some time in August. A similar entertainment was pronounced a success last year. The annual election of officers of the Nashville Drug Club resulted as follows: *President*, D. J. Kuhn; *First Vice-President*, Ira B. Clark; *Second Vice-President*, C. C. Young; *Treasurer*, D. S. Sanders; *Secretary*, William R. White.

WILLIAM R. WHITE, *Secretary*.

COUNCIL BUSINESS

A. PH. A. COUNCIL LETTER NO. 25.

PHILADELPHIA, PA., July 1, 1917.

To the Members of the Council:

Motion No. 30 (Additional appropriation of \$100.00 for National Drug Trade Conference) and No. 31 (Election of Members; application Nos. 149 to 172, inclusive), have each received a majority of affirmative votes.

Motion No. 32 (Election of Members). The following applications have been presented:

No. 173. Miss Rebecca Ocheret, 766 Coney Island Ave., Brooklyn, N. Y., rec. by H. B. Smith and Thos. J. France.

No. 174. Mr. Wm. Ambrose Jarrett, Univ. of Maine, Orono, Maine, rec. by Theodore J. Bradley and Hugh C. Muldoon.

No. 175. Mr. Abraham Silvermann, 524 New Jersey Ave., Brooklyn, N. Y., rec. by Otto Raubenheimer and Emil Roller.

No. 176. Mr. Attilio Graziani, 20 King St., New York, N. Y., rec. by Geo. C. Diekman and Hugo H. Schaefer.

No. 177. Mr. Leonard Steiger, Hillsdale, N. J., rec. by J. Leon Lascoff and Geo. C. Diekman.

No. 178. Mr. Boruch Klatz, 281 Nepperham Ave., Yonkers, N. Y., rec. by Dr. J. Diner and Gustave G. Horstmann.

No. 179. Mr. Joseph Anthony Vaccarino, 295 Elizabeth St., New York, N. Y., rec. by Jacob Diner, M. D., and G. Horstmann.

No. 180. Mr. James Tesler, 52 Stagg St., Brooklyn, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.

No. 181. Mr. Charles A. Susslin, 2654 Valentine Ave., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.

- No. 182. Mr. Joseph Michael Ruddy, 5 Keyes St., Warren, Mass., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 183. Mr. Wendell E. Phillips, Box 103, Bronxville, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 184. Mr. William Nelson, 1051 Boston Rd., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 185. Mr. Leon C. Monakey, Tupper Lake, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 186. Mr. Samuel Mozicoff, 1060 Forest Ave., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 187. Mr. David Miller, 1 Gates Ave., Brooklyn, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 188. Mr. Abraham Matlin, 962 Sou. Blvd., Bronx, New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 189. Mr. Samarion Marchonski, 2025 LaFontain Ave., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 190. Mr. Jacob Lifshitz, 953 Fox St., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 191. Mr. Frank Vincent LaMonte, 2289 1st Ave., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 192. Mr. Samuel Liebman, 30 Humboldt St., Brooklyn, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 193. Mr. Boris S. Israel, 903 Teller Ave., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 194. Mr. Anthony Philip Koch, 248 Rivington St., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 195. Mr. Elihu S. Hurwitz, 1796 Bathgate Ave., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 196. Mr. Philip Goldberg, 804 E. 178th St., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 197. Mr. Anthony Ginliani, 3542 Holland Ave., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 198. Mr. Israel Fleishman, 933 E. 181st St., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 199. Mr. Julius Fiorilla, 304 W. 149th St., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 200. Mr. John B. Darcy, St. Vincents Hospital, New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 201. Mr. Arthur Adler, 973 Fox St., New York, N. Y., rec. by Dr. Jacob Diner and G. Horstmann.
- No. 202. Mr. Sam P. Harben, Richardson, Texas, rec. by E. G. Eberle and Jacob Schrodt.
- No. 203. Mr. Ivan Joseph Valin, 9 Orchard St., Auburn, N. Y., rec. by Charles B. Sears and A. E. Adams.
- No. 204. Mr. Russell V. Rogers, 1200 Main St., Dallas, Texas, rec. by E. G. Eberle and C. A. Duncan.
- No. 205. Mr. E. J. Lea, Bureau of Food & Drugs, Univ. of Cal., Berkeley, Cal., rec. by H. M. Whelpley and J. W. England.
- No. 206. Mr. Joseph Cohen, 4201 Broadway, New York, N. Y., rec. by Benj. Bratter and Dr. H. M. Whelpley.
- No. 207. Mr. Edward James Meister, 260 N. 11th St., Cedar Rapids, Iowa, rec. by W. J. Teeters and R. A. Kuever.
- No. 208. Mr. Earl L. Hazeldine, Selby, S. Dak., rec. by G. Scherling and Wilber J. Teeters.
- No. 209. Mr. John Wear, 3648 Chestnut St., Phila., Pa., rec. by Charles H. LaWall and Ivor Griffith.
- No. 210. Mr. Emil P. Rauschert, 2303 Lincoln Ave., Chicago, Ill., rec. by A. H. Clarke, and Wm. B. Day.
- No. 211. Mr. Charles Bidwell, Albion, Ind., rec. by Clyde M. Snow and Wm. B. Day.
- No. 212. Mr. Hans Walter Vahlteich, 2000 N. Halsted St., Chicago, Ill., rec. by Wm. Gray and Wm. B. Day.
- No. 213. Miss Rose Scheele Ruder, 1101 Berwyn Ave., Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.
- No. 214. Mr. Edward A. Henderson, 3600 Univ. Ave., Los Angeles, Cal., rec. by Edward G. Binz and J. Lengfeld.

- No. 215. Mr. Edward Emery Orr, Jr., 5 Florence St., Revere, Mass., rec. by Theodore J. Bradley and John G. Godding.
- No. 216. Mr. Eugene Louis Sharkansky, 121 Cottage St., Fall River, Mass., rec. by C. Herbert Packard and Theodore J. Bradley.
- No. 217. Miss Edna Mildred Follensby, Woodland Rd., Southborough, Mass., rec. by Howard H. Smith and Theodore J. Bradley.
- No. 218. Mr. Stanley William Foulser, 40 Ashford St., Allston, Mass., rec. by Elie H. LaPierre and Theodore J. Bradley.
- No. 219. Mr. Vincent Joseph Fitz-Simon, 829 N. Main St., Brockton, Mass., rec. by John G. Godding and Theodore J. Bradley.
- No. 220. Mr. Francis Josephus Skye, 335 Exchange Ave., E. St. Louis, Ill., rec. by H. M. Whelpley and F. W. Sultan.
- No. 221. Mr. Howard William Griesing, 21 N. Centre St., Merchantville, N. J., rec. by Charles H. LaWall and Ivor Griffith.
- No. 222. Mr. Wm. D. Duncan, 717 LaSalle St., Ottawa, Ill., rec. by William Gray and C. A. Storer.
- No. 223. Ray Allen Whidden, 161 N. Franklin St., Chicago, Ill., rec. by William Gray and Wm. B. Day.
- No. 224. Mr. Byron Armstrong, Jacksonville, Ill., rec. by Wm. B. Day and Wm. Gray.
- No. 225. Mr. Carl J. Herzog, 122 Hudson St., New York, N. Y., rec. by Fred J. Lackenbach and Wm. B. Day.
- No. 226. Mr. John T. Davis, Jr., 325 Broadway, Hannibal, Mo., rec. by Otto F. Klaus and D. V. Whitney.
- No. 227. Mr. Walding G. Rupp, 21 Kenilworth Dr., Toledo, Ohio, rec. by Charles H. LaWall and Dr. H. M. Whelpley.

J. W. ENGLAND, *Secretary of the Council*.
415 NORTH 33RD STREET.

A. PH. A. COUNCIL LETTER NO. 26.
PHILADELPHIA, PA., July 16, 1917.
To the Members of the Council:

Motion No. 32 (Election of Members; applications Nos. 173-227 inclusive) has received a majority of affirmative votes.

Motion No. 33 (Vacancy in Commission on Proprietary Medicines). Moved by H. M. Whelpley, seconded by W. B. Day, that Samuel C. Henry, of Philadelphia, be elected to fill the vacancy in the Commission on Proprietary Medicines caused by the death of the late Thomas F. Main.

Motion No. 34 (Vacancy in Committee on Transportation). Moved by H. V. Army, seconded by E. G. Eberle, that Caswell A. Mayo, of New York, be elected to fill the vacancy in the Committee on Transportation, as a member and chairman, caused by the death of the late Thomas F. Main.

Motion No. 35 (Election of Members). The following applications have been presented:

- No. 228. Mr. Joseph J. Miller, 525 3rd Ave., Pittsburgh, Pa., rec. by J. A. Koch and E. G. Eberle.
- No. 229. Mr. Bernard M. Keene, 201 N. Delaware Indianapolis, Ind., rec. by F. W. Meissner and E. W. Stucky.
- No. 230. Mr. Frank B. Meyer, 848 Broadway, Gary, Ind., rec. by F. W. Meissner and W. H. Rudder.
- No. 231. Dr. David Elias Morgan, Phoenix City, Ala., rec. by Carl Wharton and W. S. Vance.
- No. 232. Mr. Charles Robert Walker, Ensley, Ala., rec. by L. C. Lewis and W. P. Thomason.
- No. 233. Mr. S. L. Toomer, Auburn, Ala., rec. by L. C. Lewis and W. P. Thomason.
- No. 234. Mr. J. F. Spearman, Anniston, Ala., rec. by L. C. Lewis and W. P. Thomason.
- No. 235. Mr. E. E. Cale, Ensley, Ala., rec. by L. C. Lewis and W. P. Thomason.
- No. 236. Mr. Albert L. Schuhl, 1406 No. 33rd St., Omaha, Nebr., rec. by H. C. Newton and L. A. Johnson.
- No. 237. Mr. Joseph C. Piercy, Tonapah, Nevada, rec. by H. C. Christensen and Wm. B. Day.
- No. 238. Mr. Archie R. Crews, 307 11th St., Ballinger, Texas, rec. by E. G. Eberle and John A. Weeks.
- No. 239. Mr. Rudolph Johannes Schobert, 2036 Pierce Ave., Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.

J. W. ENGLAND,
Secretary of the Council.
415 N. 33RD STREET.

PROGRAM FOR INDIANAPOLIS MEETING.

Monday, August 27.

- 9.30 A.M. National Association Boards of Pharmacy.
- 2.00 P.M. National Association Boards of Pharmacy.
- 8.00 P.M. National Association Boards of Pharmacy. American Conference of Pharmaceutical Faculties.

Tuesday, August 28.

- 9.30 A.M. National Association Boards of Pharmacy. American Conference of Pharmaceutical Faculties.
- 2.00 P.M. American Conference of Pharmaceutical Faculties. Joint Meeting of A. C. P. F. and N. A. B. P. Excursions to Industrial Plants.
- 7.00 P.M. Meeting of the Council.
- 8.00 P.M. First General Session. Meeting of Committee on Nominations.

Wednesday, August 29.

- 9.30 A.M. Scientific Section. Commercial Section. Women's Section.
- 2.00 P.M. Practical Pharmacy and Dispensing (Pharmacopoeias, Formularies and Standards). Section on Education and Legislation.
- 2.30 P.M. Musicales for Ladies, Claypool Hotel.
- 4.00 P.M. House of Delegates.
- 7.00 P.M. Meeting of the Council.
- 8.30 P.M. President's Reception. Riley Room, Claypool Hotel.

Thursday, August 30.

- 9.00 A.M. Automobile Ride for Ladies.
- 9.30 A.M. Scientific Section. Commercial Section. Practical Pharmacy and Dispensing (Pharmacopoeias, Formularies and Standards).
- 12.30 P.M. Luncheons of College Alumni.
- 1.00 P.M. Luncheon for Ladies, Claypool Hotel.
- 2.30 P.M. Second General Session.
- 4.00 P.M. House of Delegates.
- 7.00 P.M. Meeting of the Council.
- 8.00 P.M. Visit to the Laboratories of Eli Lilly & Co.

Friday, August 31.

- 9.30 A.M. Scientific Section. Section on Education and Legislation. Historical Section.
- 2.00 P.M. Practical Pharmacy and Dispensing (Pharmacopoeias, Formularies and Standards). Women's Section. Joint Session of Section on Education and Legislation, A. C. P. F. and N. A. B. P.
- 4.00 P.M. Meeting of the Council (Reorganization).
- 8.00 P.M. Entertainment for Entire Association.

Saturday, September 1.

- 9.00 A.M. Meeting of the Council.
- 10.00 A.M. Final General Session.

Members should at once obtain information relative to Transportation Rates from their local R. R. ticket agents.

INDIANAPOLIS HOTELS.

CLAYPOOL HOTEL—HEADQUARTERS.

One Person.

Room with detached bath.....	\$1.50
Room with private bath.....	2.00

Two Persons.

Room with detached bath.....	\$3.00 to \$5.00
Room with private bath.....	4.00 to 8.00

Two connecting rooms with bath.

Two persons.....	\$5.00 to \$8.00
Four persons.....	7.00 to 12.00

Other excellent hotels for those who, for any reason, do not care to stop at headquarters, are: The Severin, the Washington and the Denison. The rates at these hostelries will be the same as those at the Claypool Hotel. All three are within two minutes' walk of headquarters.

Good accommodations can also be had at several other hotels within a short walk of the Claypool. Rates of \$1.00 a day and upward have been secured at the Colonial, the English, the Grand, the Edward, the Linden, and the Oneida.

The Puritan and the Williams, two recent additions to the Indianapolis hotels, while more remote than those previously mentioned, are moderate in price and the accommodations excellent.

LOCAL COMMITTEES.

General Committee.

F. E. Bibbins, *Local Secretary*; C. W. Watkins, J. G. Mueller, W. F. Werner, A. D. Thorburn, F. R. Eldred, F. H. Carter, C. B. Jordan, E. G. Eberhardt.

Registration.

C. W. Watkins, *Chairman*; A. J. Holmes and A. F. Brown.

Finance.

J. G. Mueller, *Chairman*; C. J. Lynn and E. W. Stucky.

Hotel.

F. H. Carter, *Chairman*; August Kassulke and R. P. Blodau.

Publicity.

A. D. Thorburn, *Chairman*; H. S. Noel, E. B. Carter and C. B. Jordan.

Entertainment.

F. R. Eldred, *Chairman*; M. P. Schwartz, H. J. Borst, F. B. Fisk, W. A. Caperton, R. P. Blodau, H. W. S. Carter, J. W. Stokes and H. W. Rhodehamel.

Historical Exhibit.

E. G. Eberhardt, *Chairman*; J. H. Hurty and F. A. Federer.

Reception.

W. F. Werner, *Chairman*; L. E. Kline, E. H. Niles, C. R. Eckler, R. W. Showalter, W. J. Mooney, I. L. Miller, J. K. Lilly, Henry Huder, Cortice M. Warner, Theophilus Zimmerman, E. W. May, A. E. Denison, A. F. Sala, W. J. Gift, Burton Cassidy and W. C. Bartholomew.

*Ladies' Reception Committee.*Mrs. J. W. Stokes, *Chairman.*

Mrs. W. C. Bartholomew
 Mrs. F. E. Bibbins
 Mrs. H. J. Borst
 Mrs. F. H. Carter
 Mrs. F. R. Eldred
 Mrs. F. B. Fisk
 Mrs. J. G. Mueller
 Mrs. M. P. Schwartz

Mrs. H. S. Noel
 Mrs. E. W. Stucky
 Mrs. A. D. Thorburn
 Mrs. C. W. Watkins
 Mrs. G. D. Timmons
 Mrs. F. W. Meissner
 Mrs. J. K. Lilly
 Mrs. Eli Lilly

TENTATIVE PROGRAMS OF HOUSE OF DELEGATES AND SECTIONS OF THE AMERICAN PHARMACEUTICAL ASSOCIATIONS.*

House of Delegates, A. Ph. A.

Officers: *Chairman*, J. H. Beal; *First Vice-Chairman*, S. C. Henry; *Second Vice-Chairman*, O. F. Claus; *Secretary*, Jeannot Hostmann.

Sessions: Wednesday, August 29, 4.00 P.M.; Thursday, August 30, 4.00 P.M.

*Program.***SCIENTIFIC SECTION.**

Officers: *Chairman*, J. L. Turner; *First Vice-Chairman*, B. L. Murray; *Second Vice-Chairman*, A. W. Linton; *Secretary*, W. W. Stockberger.

Sessions: Wednesday, August 29, 9.30 A.M.; Thursday, August 30, 9.30 A.M.; Friday, August 31, 9.30 A.M.

Program.

1. "Magnesium Sulphate".....Jacob Diner
2. "Drug Cultivation" (illustrated with lantern slides).....John A. Borneman
3. "Microchemistry of the Alkaloids of *Datura Stramonium*".....Chas. O. Lee
4. "The Analysis of Borax Soaps for the Borax Content".....K. F. Ehmann and Joseph Harrison
5. "Borax and Boric Acid".....H. L. Harris
6. "Tolu and Sugar Coating in the Disguising of Medicines".....Bernard Fantus
7. "Solubility of Phosphatic Kidney Stones".....W. F. Rudd and E. V. Greever
8. "Standardization of Digitalis".....H. C. Colson, Jr.
9. "Tincture of Cantharides".....W. L. Scoville
10. "The Constituents of Senna Beans".....W. L. Scoville
11. "The Significance of Cretinin and Its Colorimetric Determination in Urine".....W. F. Gidley
12. "Biological Products from the Pharmacy Point of View".....L. E. Sayre
13. "Scientific Drug Farming" (illustrated with motion pictures).....H. C. Fuller
14. "Symposium on Drug Plant Growing".....

W. W. Stockberger, Edward Kremers, F. L. Newcomb, H. C. Fuller, and others
15. "Soy Bean Oil".....E. V. Howell
16. "The Inversion of Sugar in U. S. P. Syrup".....G. W. Lloyd Plette
17. "The Microanalysis of Malted Milks".....C. W. Ballard

*The programs have not been completed and include only copy that reached the JOURNAL office prior to August 4. The officers of the House of Delegates and Sections are requested to send completed programs, arranged as they desire the subjects listed, to the Editor of the JOURNAL A. Ph. A., 253 Bourse Building, not later than August 18, so the Official Program may be prepared in advance of the meeting in Indianapolis. Those who will have papers and have not advised the chairmen, should do so at once.

SECTION ON PRACTICAL PHARMACY AND DISPENSING.

(Pharmacopoeias, Formularies and Standards.)

Officers: *Chairman*, W. H. Glover; *Secretary*, David Stolz; *Associates*, Mrs. St. Clair R. Gay and Charles W. Holzhauser, Jr.

Sessions: Wednesday, August 29, 2.00 P.M.; Thursday, August 30, 9.30 A.M.; Friday, August 31, 2.00 P.M.

*Program***SECTION ON EDUCATION AND LEGISLATION.**

Officers: *Chairman*, R. A. Kuever; *Secretary*, C. B. Jordan; *Associates*, H. V. Army, Arthur W. Linton and John Culley.

Sessions: Wednesday, August 29, 2.00 P.M.; Friday, August 31, 9.30 A.M. and 2.00 P.M.

Tentative Program.

Wednesday, 2 O'clock—First Session.

1. Address of the Chairman.....R. A. Kuever
2. Report of the Secretary.....C. B. Jordan
3. Report of the Committee on Patents and Trade Marks.....F. E. Stewart, *Chairman*
4. Report of the Committee on Drug Reform.....L. E. Sayre, *Chairman*
5. Report of the Committee on National Legislation.....John C. Wallace, *Chairman*
6. Report of the Committee on Regulation for the Transportation of Drugs by Mail....
.....Benj. L. Murray, *Chairman*
7. "Iowa's Prerequisite Law".....J. M. Lindly
8. "The State Legislature".....W. H. Cousins
9. "Graduate Pharmaceutical Work".....Edward Kremers
10. Nomination of officers.

Friday, 9.30 O'clock—Second Session.

1. "What Compulsory Health Insurance Will Mean to the Druggist"....Harry B. Mason
2. "Privately Owned Schools and Colleges of Pharmacy".....Edward Spease
3. Some Ideas about the Teaching of Practical Pharmacy".....Zada M. Cooper
4. "The School of Pharmacy and the Profession".....C. F. Nelson
5. "Pharmaceutical Journals.....Robert P. Fischelis
6. A Paper.....Anna G. Bagley
7. A Paper.....F. W. Nitardy
8. Report on the Work of the Voluntary Conference for the Drafting of Modern Laws Pertaining to Pharmacy.....Frank H. Freericks, *Chairman*
9. Further Nomination and Election of Officers.

Friday, 2.00 O'Clock—Third Session.

Joint Session of the Section with the American Conference of Pharmaceutical Faculties and the National Association of Boards of Pharmacy.

Rufus A. Lyman, President American Conference of Pharmaceutical Faculties; Lawrence C. Lewis, President National Association of Boards of Pharmacy.

1. Report of the Eighteenth Annual Meeting of the American Conference of Pharmaceutical Faculties, by its Secretary.....Wilber J. Teeters
2. Report of the Thirteenth Annual Meeting of the National Association of Boards of Pharmacy, by its Secretary.....H. C. Christensen
3. Presentation of Resolutions adopted by the A., C. P. F. and N. A. B. P. for Discussion
4. "Fallacies in Popular Psychology of Salesmanship".....Chas. O. Lee
5. "Are Colleges of Pharmacy Devoting Sufficient Time to Prescription Laboratory Practice?".....A. W. Linton

6. A Paper.....Chas. E. Mollet
7. "Military Recognition of the Pharmacist".....L. E. Sayre
8. "Pharmacology and the Recognition of Professional Pharmacy by the United States Government".....F. E. Stewart
9. "The U. S. P. IX and N. F. IV as Text Books for Pharmacognosy".....W. F. Gidley
10. "Further Reports and Discussion on the Work of the Voluntary Conference for the Drafting of Modern Laws Pertaining to Pharmacy".....Frank H. Freericks, *Chairman*

SECTION ON COMMERCIAL INTERESTS.

Officers: *Chairman*, P. Henry Utech; *Secretary*, Robert F. Fischelis; *Associates*, A. H. Ackermann, S. K. Sass and J. H. Webster.

Sessions: Wednesday, August 29, 9.30 A.M.; Thursday, August 30, 9.30 A.M.

Program.

1. Address of Chairman.....P. Henry Utech
2. "Net Profits and the Average Sale".....Clyde L. Eddy
3. "Commercial Possibilities in Professional Pharmacy".....Henry Kraeiner
4. "Various Phases of Drug Store Publicity".....H. S. Noel
5. "The Preceptor—An Asset or a Liability".....F. M. Apple
6. "Capitalize Your Responsibility".....J. C. Peacock
7. "More Profits within Your Reach".....W. W. Figgis
8. "Commercial Pharmacy at College and at the Store".....Robert P. Fischelis

SECTION ON HISTORICAL PHARMACY.

Officers: *Chairman*, W. L. DuBois; *Secretary*, L. E. Sayre; *Historian*, E. G. Eberle.

Session: Friday, August 31, 9.30 A.M.

Program.

1. Address of the Chairman.....W. L. DuBois
2. "Eli Lilly, His Relations to Historical Pharmacy in the State of Indiana".....J. K. Lilly
3. "Historical Pharmacy of Indianapolis".....Frank H. Carter
4. "History of American Ginseng".....Edward Kremers
5. "History of New Jersey Pharmaceutical Association (for the Year of 1916)".....Edward A. Sayre
6. "Chicago Veteran Druggists' Association".....Wilhelm Bodemann
7. "Antique Mortars".....Caswell A. Mayo
8. "Observations and Experiences in Pharmacy Extending over Sixty Years".....John F. Hancock
9. "Sketch of Maryland College of Pharmacy Since the Incorporation in 1841".....John F. Hancock
10. "Purdue University School of Pharmacy".....W. F. Gidley

WOMEN'S SECTION.

Officers: *President*, Mrs. E. A. Ruddiman; *Honorary President*, Mrs. John F. Hancock; *First Vice-President*, Mrs. E. Fine; *Second Vice-President*, Mrs. G. M. Beringer; *Third Vice-President*, Mrs. Fletcher Howard; *Secretary*, Mrs. Jean McKee Kenaston; *Treasurer*, Mrs. Franklin Apple; *Historian*, Miss Bertha Ott; *Chairman of Executive Committee*, Mrs. G. D. Timmons.

Sessions: Wednesday, August 29, 9.30 A.M.; Friday, August 31, 2.00 P.M.

Program.

1. "Teaching the Public".....Miss Zada Cooper
2. "Chemistry of the Household".....Miss Mary Creighton
3. "Problems in the Druggist's Home".....Mrs. W. B. Philip
4. "Some Social Service Aspects of the Hospital".....Miss Bertha Ott
5. "How Pharmacists' Wives May be of Service to Their Country".....Mrs. David F. Jones
6. A Talk.....Dr. H. V. Army

COMMITTEE REPORTS

REPORT OF THE TREASURER OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

JANUARY 1, 1916, TO JANUARY 1, 1917.

Receipts.

Cash on hand, January 1, 1916.....			\$87.25
Annual dues and Journal 1913 (Jan. 1, 1913 to Dec. 31, 1913)	\$ 5.00		
Annual dues and Journal 1914 (Jan. 1, 1914 to Dec. 31, 1914)	25.00		
Annual dues and Journal 1915 (Jan. 1, 1915 to Dec. 31, 1915)	405.00		
Annual dues and Journal 1916 (Jan. 1, 1916 to Dec. 31, 1916)	9060.00		
Annual dues and Journal 1917 (Jan. 1, 1917 to Dec. 31, 1917)	2120.00		
Annual dues and Journal 1918 (Jan. 1, 1918 to Dec. 31, 1918)	10.00	\$11625.00	
Dues only of the A. Ph. A. (Jan. 1, 1916 to Dec. 31, 1916)...		52.00	
Miscellaneous dues of the A. Ph. A.....		8.75	
Sale of 2 parchment certificates of membership at \$5.00.....	10.00		
Sale of 5 paper certificates of membership at \$3.00.....	15.00	25.00	
Sale of Year Book and Proceedings.....		70.85	
Journal Advertisements.....		5122.04	
Journal Subscriptions.....		247.64	
Postage.....		.50	
Bank Exchange paid with dues.....		.89	
Sale of Badges and Bars.....		21.45	
Reprints from A. Ph. A. JOURNAL.....		8.00	
Sale of 19 Gold Membership Buttons at \$1.00.....	19.00		
Sale of 23 plated Membership Buttons at 25 cents.....	5.75		
Sale of 11 Gold Membership Pins at \$1.00.....	11.00		
Sale of 10 Plated Membership Pins at 25 cents.....	2.50	38.25	
Interests on St. Louis Bonds in Current Fund.....	400.00		
Interests on deposit in International Bank of St. Louis.....	148.75	548.75	\$17769.12
National Formulary III and IV.....			29700.33
Life Membership Fee.....		25.00	
Life Membership Fund (Interest on Massachusetts State Bonds).....	390.00		
Centennial Fund (interests on Massachusetts State Bonds)	30.00	420.00	
<i>Interest on Funds in International Bank of St. Louis from January 1, 1916, to December 31, 1916.</i>			
Ebert Legacy Fund.....	140.15		
Procter Monument Fund.....	470.18		
Rice Memorial Fund.....	2.60	612.93	
<i>Interest on Funds in Boston Penny Savings Bank from January 1, 1916 to December 31, 1916.</i>			
Life Membership Fund.....	333.38		
Ebert Prize Fund.....	43.78		
Centennial Fund.....	74.98		
Endowment Fund.....	254.84		
College Prize Fund.....	1.46	708.44	\$ 1766.37
Total.....			49323.07

Disbursements by Voucher Checks.

Jan. 3. Check 2632 Wm. B. Day, salaries.....	\$375.00
" 5. " 2637 Louis C. Hesse, printing, postage and stationery....	4.75

Jan.	5.	"	2638	Wm. B. Day, printing, postage and stationery.....	\$ 32.00	
				Clerical.....	40.00	
				National Formulary III.....	3.56	
				Freight, express and drayage.....	2.46	
				Badges and bars.....	.14	
				Journal for Reporters on Progress of Pharmacy....	3.12	81.28
"	5.	"	2639	W. T. Robinson, membership.....		22.00
"	7.	"	2640	National Drug Trade Conference		
				Chas. M. Woodruff, Secy.-Treas., Drug Trade		
				Conference		50.00
"	7.	"	2641	Clarissa M. Roehr, Secy.-Treas., membership.....		16.00
"	10.	"	2642	E. G. Eberle, salaries.....		291.67
"	10.	"	2643	E. G. Eberle		
				Journal (a).....	12.25	
				" (b).....	60.00	
				" (c).....	15.48	
				" (d).....	15.28	103.01
"	10.	"	2644	Stoneman Press Co., Journal (a).....		481.10
"	12.	"	2645	H. M. Whelpley, salaries.....		500.00
"	17.	"	2646	Louis C. Hesse, printing, postage and stationery....	3.25	
"	17.	"	2647	J. B. Lippincott Co., National Formulary III.....		11.25
"	17.	"	2648	John C. Wallace, Nat'l Drug Trade Conference....		49.18
"	17.	"	2649	W. T. Robinson, printing, postage and stationery....		11.00
"	17.	"	2650	H. M. Whelpley, printing, postage and stationery....	88.30	
				Miscellaneous.....	6.40	94.70
"	19.	"	2651	J. H. Beal, printing, postage and stationery.....		4.50
"	19.	"	2652	Julius A. Koch, salaries (Sept. 1 to Dec. 31, 1915)....		200.00
"	20.	"	2653	E. F. Greathead, printing, postage and stationery....		3.75
"	20.	"	2654	Buxton & Skinner, printing, postage and stationery....		2.00
"	31.	"	2655	Louis C. Hesse, printing, postage and stationery....		8.50
Feb.	3.	"	2656	Wm. B. Day, printing, postage and stationery.....	5.00	
				Clerical.....	32.00	
				Miscellaneous.....	3.50	
				Membership.....	11.88	
				Year Book.....	.33	
				Journal for Reporter on Progress of Pharmacy.....	4.80	
				National Formulary III.....	2.22	59.73
"	9.	"	2657	Louis C. Hesse, printing, postage and stationery....		4.50
"	11.	"	2658	W. T. Robinson, membership.....		22.00
"	17.	"	2659	E. G. Eberle, salaries.....		291.67
"	17.	"	2660	E. G. Eberle		
				Journal (a).....	2.00	
				" (b).....	60.00	
				" (c).....	24.97	
				" (d).....	14.50	101.47
"	17.	"	2661	Stoneman Press Co., Journal (a).....		7.75
"	17.	"	2662	J. B. Lippincott, Journal (a).....		423.33
"	17.	"	2663	E. F. Greathead, printing, postage and stationery....		11.90
"	17.	"	2664	Anna G. Bagley, Women's Section, A. Ph. A.....		3.96
"	21.	"	2665	Humble Letter Service, membership.....		3.00
"	28.	"	2666	W. T. Robinson, printing, postage and stationery....		2.50
Mar.	8.	"	2667	Hieronimes A. Herold, National Formulary		6.00
"	8.	"	2668	Buxton & Skinner, printing, postage and stationery....		1.75
"	8.	"	2669	Wm. B. Day, clerical.....	32.00	
				Miscellaneous.....	.20	
				Membership.....	10.00	

			Year Book.....	.99	
			Journal for Reporters on Progress of Pharmacy.....	12.04	
			National Formulary III.....	2.76	57.99
Mar. 10.	"	2670	W. T. Robinson, Year Book, Vol. 3.....		3.50
" 14.	"	2671	E. G. Eberle, salaries.....		291.67
" 14.	"	2672	Louis C. Hesse, printing, postage and stationery...		12.90
" 14.	"	2673	J. B. Lippincott Co., Journal (a).....		358.16
" 14.	"	2674	E. G. Eberle		
			Journal (a).....	9.54	
			" (b).....	60.00	
			" (c).....	17.41	
			" (d).....	7.13	94.08
" 14.	"	2675	Reeves Printing Co., membership.....		13.85
" 24.	"	2676	Noble & Seely, membership.....		8.00
" 24.	"	2677	Wickersham Printing Co, National Formulary III..		80.00
" 24.	"	2678	Wickersham Printing Co., National Formulary III..		12.86
" 30.	"	2679	Seidel Printing Co., Section on Scientific Papers....		7.00
" 31.	"	2680	W. T. Robinson, printing, postage and stationery...		3.00
Apr. 1.	"	2681	Denver Branch A. Ph. A., membership.....		4.00
" 6.	"	2682	Wm. B. Day, clerical.....	40.00	
			Miscellaneous.....	5.67	
			Membership.....	.54	
			Year Book, Vol. 3.....	.49	
			National Formulary III.....	3.08	49.78
" 6.	"	2683	H. M. Whelpley, printing, postage and stationery...	66.65	
			Miscellaneous.....	20.67	87.32
" 10.	"	2684	W. T. Robinson, printing, postage and stationery...		3.00
" 14.	"	2685	Theo. C. Hagenow (Treas. St. Louis Branch) mem- bership.....		5.00
" 17.	"	2686	J. B. Lippincott Co., Women's Section A. Ph. A....	12.89	
			Journal (a).....	2.68	15.57
" 17.	"	2687	E. F. Greathead, printing, postage and stationery...		11.90
" 17.	"	2688	E. G. Eberle, salaries.....		291.67
" 17.	"	2689	J. B. Lippincott		
			Journal (a).....	372.71	
			" (c).....	19.95	392.66
" 17.	"	2690	J. B. Lippincott Co., Journal (c).....		3.72
" 17.	"	2691	E. G. Eberle		
			Journal (a).....	11.38	
			" (b).....	60.00	
			" (c).....	21.75	93.13
" 25.	"	2692	W. T. Robinson, printing, postage and stationery...		2.75
" 25.	"	2693	E. F. Greathead, printing, postage and stationery...		6.90
" 25.	"	2694	Wm. C. Alpers, membership.....		30.00
" 25.	"	2695	J. W. England, printing, postage and stationery....	29.13	
			Miscellaneous.....	1.86	30.99
" 25.	"	2696	Buxton & Skinner, printing, postage and stationery...		1.75
May 4.	"	2697	J. B. Lippincott, printing, postage and stationery...		3.78
" 4.	"	2698	Wm. B. Day, printing, postage and stationery.....	10.00	
			Clerical.....	32.00	
			Miscellaneous.....	.62	
			Membership.....	.32	
			Year Book, Vol. 3.....	.58	
			National Formulary III.....	2.29	45.81
" 6.	"	2699	Louis C. Hesse, printing, postage and stationery....		4.25
" 17.	"	2700	E. G. Eberle, salaries.....		291.67

May 17.	"	2701	J. B. Lippincott Co.		
			Journal (a).....	356.03	
			" (c).....	19.57	375.60
" 17.	"	2702	E. G. Eberle		
			Journal (a).....	15.57	
			" (b).....	60.00	
			" (c).....	10.00	
			" (d).....	36.50	122.07
" 17.	"	2703	Lloyd Brothers, miscellaneous.....		188.74
" 17.	"	2704	Geo. M. Beringer, Com. on Unofficial Standards....		30.92
" 17.	"	2705	Geo. Wirsing, printing, postage and stationery.....		9.50
June 20.	"	2706	Wm. B. Day, printing, postage and stationery.....	5.00	
			Clerical.....	32.00	
			Miscellaneous.....	.85	
			Year Book, Vol. 3.....	.85	
			National Formulary III.....	2.10	40.80
" 20.	"	2707	Louis C. Hesse, printing, postage and stationery....		4.75
" 20.	"	2708	W. T. Robinson, printing, postage and stationery....		2.75
" 20.	"	2709	E. F. Greatehead, printing, postage and stationery...		11.90
" 20.	"	2710	Reeves Printing Co., membership.....		2.75
" 20.	"	2711	Wm. C. Alpers, membership.....		15.00
" 20.	"	2712	J. B. Lippincott Co.		
			Journal (a).....	336.71	
			" (c).....	18.19	354.90
" 20.	"	2713	E. G. Eberle		
			Journal (a).....	15.80	
			" (b).....	33.75	
			" (c).....	10.25	
			" (d).....	6.42	66.22
" 20.	"	2714	E. G. Eberle, salaries.....		291.67
" 20.	"	2715	Buxton & Skinner, printing, postage and stationery.		3.00
" 20.	"	2716	H. M. Whelpley, printing, postage and stationery...	24.07	
			Miscellaneous.....	10.61	34.68
" 20.	"	2717	W. T. Robinson, printing, postage and stationery...		12.00
" 20.	"	2718	D. L. Ward Co., recipe book.....		10.50
" 20.	"	2719	Louis C. Hesse, printing, postage and stationery....		7.75
" 20.	"	2720	A. J. Eggers & Co., Sec. on Education and Leg.....		11.75
" 21.	"	2721	J. W. England, salaries.....		150.00
" 21.	"	2722	Wm. B. Day, salaries.....		375.00
" 21.	"	2723	J. A. Koch, salaries.....		300.00
" 21.	"	2724	Louis C. Hesse, printing, postage and stationery....		3.00
" 21.	"	2725	H. K. Myers, National Formulary III.....		2.75
" 29.	"	2726	H. M. Whelpley, salaries.....		500.00
" 29.	"	2727	Wickersham Printing Co., Nat'l Formulary III.....		1.74
July 5.	"	2728	W. T. Robinson, printing, postage and stationery....		7.50
" 8.	"	2729	J. H. Beal, printing, postage and stationery.....		5.00
" 11.	"	2730	Wm. B. Day, printing, postage and stationery.....	10.00	
			Clerical.....	32.00	
			Miscellaneous.....	.50	
			National Formulary III.....	1.09	
			Membership.....	.20	43.79
" 21.	"	2731	Louis C. Hesse, National Formulary IV.....		10.35
" 21.	"	2732	Stoneman Press Co., printing, postage and stationery		4.75
" 21.	"	2733	J. B. Lippincott Co.		
			Journal (a).....	346.27	
			" (c).....	17.87	364.14

July 21.	"	2734	E. G. Eberle		
			Journal (a).....	2.50	
			" (b).....	48.00	
			" (c).....	20.00	
			" (d).....	6.42	76.92
" 21.	"	2735	E. G. Eberle, salaries.....		291.67
" 21.	"	2736	Buxton & Skinner, printing, postage and stationery.....		1.00
" 21.	"	2737	Phototype Engraving Co., National Formulary IV.....		5.00
" 21.	"	2738	H. A. Dunning, National Formulary IV.....		8.00
" 21.	"	2739	H. M. Whelpley, printing, postage and stationery....	12.82	
			Miscellaneous.....	2.95	15.77
" 21.	"	2740	Louis C. Hesse, printing, postage and stationery....		22.50
" 25.	"	2741	W. T. Robinson, membership.....		11.50
" 28.	"	2742	E. F. Greathead, printing, postage and stationery....		11.90
" 28.	"	2743	Louis C. Hesse, National Formulary IV.....		10.35
Aug. 3.	"	2744	Louis C. Hesse, printing, postage and stationery....		4.00
" 3.	"	2745	Louis C. Hesse, printing, postage and stationery....		13.75
" 9.	"	2746	Louis C. Hesse, printing, postage and stationery....		3.00
" 9.	"	2747	W. T. Robinson, printing, postage and stationery....	3.00	
			Membership.....	12.50	15.50
" 9.	"	2748	Wm. B. Day, printing, postage and stationery.....	27.00	
			Clerical.....	32.00	
			Miscellaneous.....	.20	
			National Formulary III.....	.14	59.34
" 19.	"	2749	E. G. Eberle, salaries.....		291.67
" 19.	"	2750	J. B. Lippincott Co.		
			Journal (a).....	325.66	
			" (c).....	19.83	345.49
" 19.	"	2751	E. G. Eberle		
			Journal (a).....	12.80	
			" (b).....	33.00	
			" (c).....	10.00	
			" (d).....	6.42	62.22
" 19.	"	2752	C. Lewis Diehl, National Formulary IV.....		500.00
" 19.	"	2753	Louis C. Hesse, printing, postage and stationery....		4.00
" 19.	"	2754	H. M. Whelpley, printing, postage and stationery....	64.46	
			Miscellaneous.....	2.40	66.86
Sept. 18.	"	2755	A. H. Fetting, badges and bars.....		25.50
" 18.	"	2756	Wm. B. Day, clerical.....	40.00	
			Miscellaneous.....	1.89	41.89
" 18.	"	2757	P. H. Utech, membership.....		3.50
" 18.	"	2758	Whitehead & Hoag Co., badges and bars.....		18.88
" 18.	"	2759	Stoneman Press Co., printing, postage and stat'y....		22.75
" 18.	"	2760	Stoneman Press Co., printing, postage and stat'y....		10.25
" 18.	"	2761	C. Lewis Diehl, National Formulary IV.....		2.98
" 21.	"	2762	E. G. Eberle, salaries.....		291.67
" 21.	"	2763	J. W. England, printing, postage and stationery....	27.50	
			Miscellaneous.....	1.53	29.03
" 21.	"	2764	E. F. Greathead, printing, postage and stationery....		11.90
" 21.	"	2765	E. F. Greathead, printing, postage and stationery....		7.20
" 21.	"	2766	Wm. B. Day, traveling expenses.....		73.70
" 21.	"	2767	J. W. England, traveling expenses.....		17.00
" 21.	"	2768	Stoneman Press Co., Year Book.....		400.00
" 21.	"	2769	W. L. Scoville, Sec. on Scientific Papers.....		6.92
" 21.	"	2770	E. L. Newcomb, Sec. on Scientific Papers.....		6.35
" 27.	"	2771	Jos. Weinstein, Sec. on Prac. Pharm. & Dispensing..		18.60

Sept. 27.	"	2772	J. B. Lippincott & Co. Journal (a).....	357.82	
			" (b).....	19.53	377.35
" 27.	"	2773	E. G. Eberle Journal (b).....	30.00	
			" (c).....	10.10	
			" (d).....	6.42	46.52
" 27.	"	2774	Chas. H. LaWall, National Formulary IV.....		3.60
" 27.	"	2775	Adam Wirth, National Formulary IV.....		2.68
" 27.	"	2776	W. L. Scoville, National Formulary IV.....		22.86
" 27.	"	2777	J. B. Lippincott Co., National Formulary IV.....		4148.82
" 28.	"	2778	H. M. Whelpley, traveling expenses.....		85.30
" 28.	"	2779	Stoneman Press Co., printing, postage and stationery.....		12.50
" 28.	"	2780	Louis C. Hesse, printing, postage and stationery....		10.25
" 28.	"	2781	Louis C. Hesse, National Formulary IV.....		17.85
Oct. 5.	"	2782	Louis C. Hesse, printing, postage and stationery....		3.25
" 5.	"	2783	Buxton & Skinner, printing, postage and stationery..		1.50
" 5.	"	2784	Robt. S. Lehman, Sec. on Commercial Interests....		25.00
" 5.	"	2785	L. H. Marvel, stenographers.....		350.00
" 11.	"	2786	Paul B. Hoerber, National Formulary III.....		34.80
" 11.	"	2787	Wm. B. Day, clerical.....	40.00	
			Printing, postage and stationery.....	.44	
			Miscellaneous.....	.61	
			Membership.....	.47	
			Year Book, Vol. 3.....	.27	41.79
" 16.	"	2788	E. G. Eberle, salaries.....		291.67
" 16.	"	2789	E. G. Eberle Journal (a).....	11.82	
			" (b).....	36.00	
			" (c).....	5.00	
			" (d).....	15.42	
			Scientific Section.....	9.50	77.74
" 16.	"	2790	J. B. Lippincott Co. Journal (a).....	324.63	
			" (b).....	20.82	345.45
" 16.	"	2791	J. B. Lippincott & Co., National Formulary IV.....		2517.75
" 16.	"	2792	Gast Bank Note Co., certificates.....		37.50
" 16.	"	2793	E. F. Greathead, printing, postage and stationery...		6.90
" 16.	"	2794	Edward F. Whaley, printing, postage and stationery...		11.00
" 16.	"	2795	E. N. Gathercoal, membership.....		23.00
" 20.	"	2796	O'Brien's Commercial Print Shop, Sect. on Educa- tion and Legislation.....		7.50
" 20.	"	2797	Fidelity & Deposit Co. of Maryland, Premium on Treas. Bond.....		37.50
" 20.	"	2798	T. J. Bradley, Treasurer's National Syllabus Com- mittee.....		25.00
" 20.	"	2799	Edw. F. Whaley, printing, postage and stationery....		18.50
" 20.	"	2800	Louis C. Hesse, printing, postage and stationery....		3.25
" 20.	"	2801	J. B. Lippincott Co., National Formulary IV.....		12.24
Nov. 8.	"	2802	Wm. Gray, membership.....		5.00
" 8.	"	2803	W. T. Robinson, printing, postage and stationery...		36.00
" 8.	"	2804	W. T. Robinson, printing, postage and stationery...		5.50
" 8.	"	2805	Louis C. Hesse, printing, postage and stationery....		5.75
" 8.	"	2806	Louis C. Hesse, printing, postage and stationery....		4.25
" 8.	"	2807	F. E. Bibbins, membership.....		20.00
" 8.	"	2808	W. J. Teeters, membership.....		1.60

Nov.	8.	"	2809	Wm. B. Day, printing, postage and stationery...	5.00	
				Clerical.....	32.00	
				Miscellaneous.....	.40	
				Year Book, Vol. 3.....	1.28	38.68
"	8.	"	2810	Title Guaranty Trust Co., miscellaneous.....		5.00
"	17.	"	2811	Mrs. F. M. Apple, Treas., membership.....		9.00
"	17.	"	2812	Wm. B. Day, printing, postage and stationery.....		74.00
"	20.	"	2813	Louis C. Hesse, printing, postage and stationery....		3.25
"	20.	"	2814	J. H. Beal, printing, postage and stationery.....	10.75	
				Miscellaneous.....	5.00	15.75
"	20.	"	2815	W. T. Robinson, printing, postage and stationery...		37.50
Nov.	20.	"	2816	E. G. Eberle, salaries.....		291.67
"	20.	"	2817	E. G. Eberle		
				Journal (a).....	12.26	
				" (b).....	20.00	
				" (c).....	10.00	
				" (d).....	6.42	48.68
Dec.	9.	"	2818	Louis C. Hesse, printing, postage and stationery...	6.75	
				Printing, postage and stationery.....	1.75	8.50
"	9.	"	2819	J. B. Lippincott Co., National Formulary IV.....		3555.00
"	9.	"	2820	J. B. Lippincott Co., National Formulary IV.....		1249.25
"	9.	"	2821	J. B. Lippincott Co.		
				Journal (a).....	417.66	
				" (b).....	23.08	440.74
"	9.	"	2822	E. F. Greathead, printing, postage and stationery...		11.90
"	9.	"	2823	J. B. Lippincott Co., National Formulary IV.....		59.16
"	9.	"	2824	John Uri Lloyd, Ebert Prize.....		40.00
"	9.	"	2825	Wm. B. Day, printing, postage and stationery.....	5.00	
				Clerical.....	40.00	
				Year Book, Vol. 3.....	1.19	46.19
"	13.	"	2826	W. T. Robinson, printing, postage and stationery...		14.50
"	26.	"	2827	J. B. Lippincott Co.		
				Journal (a).....	407.20	
				" (c).....	23.25	430.45
"	26.	"	2828	E. G. Eberle		
				Journal (a).....	5.77	
				" (b).....	44.00	
				" (c).....	5.00	
				" (d).....	6.42	61.19
"	26.	"	2829	E. G. Eberle, salaries.....		291.65
"	26.	"	2830	Louis C. Hesse, printing, postage and stationery....		1.75
"	26.	"	2831	Louis C. Hesse, printing, postage and stationery....		6.50
"	26.	"	2832	J. W. England, salaries.....		150.00
"	26.	"	2833	Wm. B. Day, salaries.....		375.00
"	26.	"	2834	J. A. Koch, salaries.....		100.00
"	26.	"	2835	H. V. Army, salaries.....		200.00
"	26.	"	2836	J. A. Koch, Year Book, Vol. 3.....		43.53
"	26.	"	2837	H. M. Whelpley, printing, postage and stationery...	69.40	
				Salaries.....	500.00	
				Miscellaneous.....	16.53	585.93
"	26.	"	2838	S. G. Adams Stamp and Stationery Co., printing, postage and stationery.....		3.30
"	26.	"	2839	J. W. England, printing, postage and stationery....		29.00
"	31.	"	2840	Louis C. Hesse, printing, postage and stationery....		3.50
Total amount disbursed by check.....					\$28652.73	
Check returned (member deceased).....					5.00	
						\$28657.73

Forward..... \$28657.73

Cash Received and Disbursed to Funds.

January 1, 1916, to January 1, 1917.

Centennial Fund (Interest on Mass. State Bonds).....	\$ 30.00	
Life Membership Fund (Int. on Mass. State Bonds).....	390.00	
Ebert Legacy Fund (Int. on St. Louis Bonds).....	80.00	\$500.00

International Bank of St. Louis (Interest on Funds).

Procter Monument Fund (Time deposit Jan. 1, to June 30, '16)	87.58	
Procter Monument Fund.....	82.60	
Rice Memorial Fund.....	2.60	
Ebert Legacy Fund.....	60.15	232.93

Boston Penny Savings Bank (Interest on Funds).

January 1, 1916, to January 1, 1917.

Life Membership Fund.....	333.38		
Ebert Prize Fund.....	43.78		
Centennial Fund.....	74.98		
Endowment Fund.....	254.84		
College Prize Fund.....	1.46	708.44	
Life Membership Fee.....	25.00		
Procter Monument Fund (Contribution J. K. Lilly).....	300.00	325.00	\$ 1766.37
Total amount of disbursements.....			\$30424.10

SUMMARY OF DISBURSEMENTS.

January 1, 1916, to January 1, 1917.

Salaries.....		\$ 7225.02
Printing, postage and stationery.....		1100.65
Clerical expense, Secretary's office.....		424.00
National Formulary III.....		166.64
National Formulary IV.....		12133.37
Miscellaneous expenses.....		271.11
Stenographers for 1916 Annual Meeting.....		350.00
Traveling expenses for 1916 Annual Meeting.....		176.60
Committee on Membership.....		251.11
Committee on Unofficial Standards.....		30.92
Year Book, Vol. 3.....		453.01
Membership gold badges and bars.....		44.52
Certificates of Membership.....		37.50
Premium on Treasurer's bond.....		37.50
National Drug Trade Conference.....		99.18
Pharmaceutical Journals for Reporter on Progress of Pharmacy.....		19.96
Section on Scientific Papers.....		29.77
Section on Education and Legislation.....		19.25
Section on Commercial Interests.....		25.00
Section on Practical Pharmacy and Dispensing.....		18.60
National Syllabus Committee.....		25.00
Women's Section.....		16.85
Journal (a) Publication.....	4626.72	
Journal (b) Clerical.....	564.28	
Journal (c) printing, postage and stationery.....	344.34	
Journal (d) freight, drayage and miscellaneous.....	111.93	5647.27
Recipe book.....		10.50
Check returned (member deceased).....		5.00
Ebert Prize to John Uri Lloyd.....		40.00
To Life Membership Fund.....		415.00
To Centennial Fund.....		30.00
To Procter Monument Fund.....		300.00

International Bank Interests from Jan. 1, 1916, to January 1, 1917.

To Ebert Legacy Fund.....	140.15	
To Procter Monument Fund.....	170.18	
To Rice Memorial Fund.....	2.60	312.93

Boston Penny Savings Bank Interests from Jan. 1, 1916, to January 1, 1917.

To College Prize Fund.....	1.46	
To Endowment Fund.....	254.84	
To Centennial Fund.....	74.98	
To Life Membership Fund.....	333.38	
To Ebert Prize Fund.....	43.78	708.44

Total amount of disbursements.....	\$30424.10
To National Formulary IV.....	13903.67
Cash on hand, Jan. 1, 1917.....	4995.30
Total.....	\$49323.07

*American Pharmaceutical Association Expenditures and Appropriations.
January 1, 1916, to January 1, 1917.*

	Expenditures.	Appropriations.
Salaries.....	\$ 7225.02	\$ 6150.00
Printing, postage and stationery.....	1100.65	1000.00
Clerical expenses, Secretary's office.....	424.00	416.00
National Formulary III.....	166.64	1000.00
Miscellaneous expenses.....	278.59	300.00
Stenographers for 1916 Annual Meeting.....	350.00	350.00
Traveling expenses for 1916 Annual Meeting.....	176.00	200.00
Committee on Membership.....	251.11	250.00
Committee on Unofficial Standards.....	30.92	100.00
Year Book, Vol. 3.....	453.01	2500.00
Membership gold badges and bars.....	44.52	50.00
Certificates of Membership.....	37.50	50.00
Premium on Treasurer's Bond.....	37.50	50.00
National Drug Trade Conference.....	99.18	100.00
Pharmaceutical Journals for Reporter on Progress of Pharmacy.....	19.96	35.00
Section on Scientific Papers.....	29.77	25.00
Section on Education and Legislation.....	19.25	25.00
Section on Commercial Interests.....	25.00	25.00
Section on Practical Pharmacy and Dispensing.....	18.60	25.00
Section on Historical Pharmacy.....	...	25.00
National Syllabus Committee.....	25.00	25.00
Women's Section.....	16.85	25.00
Recipe book.....	10.50	50.00
Journal (a) Publication.....	4626.72	4500.00
Journal (b) Clerical.....	564.28	800.00
Journal (c) printing, postage and stationery.....	344.34	300.00
Journal (d) freight, drayage and miscellaneous.....	111.93	150.00
	\$16486.84	\$18526.00
Appropriations.....	\$18526.00	
Expenditures.....	16486.84	
Unexpended balance.....	\$2039.16	

The A. Ph. A. Permanent Funds, January 1, 1917.

	1916.	1917.	Increase.
Life Membership Fund.....	\$21058.35	\$21806.73	\$ 748.38
Ebert Prize Fund.....	1084.26	1128.04	43.78
Centennial Fund.....	2941.13	3046.11	104.98
Endowment Fund.....	6308.45	6563.29	254.84
Ebert Legacy Fund.....	4012.05	4152.20	140.15
	<hr/>	<hr/>	<hr/>
	\$35404.24	\$36696.37	\$ 1292.13

Funds Held in Trust by A. Ph. A.

	1916.	1917.	Increase.
Procter Monument Fund.....	\$ 7744.00	\$ 8214.18	\$ 470.18
Rice Memorial Fund.....	173.26	175.86	2.60
College Prize Fund.....	36.96	38.42	1.46
	<hr/>	<hr/>	<hr/>
	\$7954.22	\$8428.46	\$ 474.24

The Association Assets, January 1, 1917.

St. Louis City Bonds.....	\$10000.00		
Cash in Bank, January 1, 1917.....	4995.30		
	<hr/>		
Available Assets.....		\$14995.30	
National Formulary.....		13903.67	
Permanent Funds.....		36696.37	
Funds Held in Trust.....		8428.46	
		<hr/>	
Total A. Ph. A. Assets.....			\$74023.80

*DETAILED STATEMENT OF THE SEVERAL AMERICAN PHARMACEUTICAL ASSOCIATION FUNDS.**Life Membership Fund. (Established in 1870.)*

Massachusetts 3% Registered State Bonds.....			\$13000.00
On hand in Boston Penny Savings Bank, January 1, 1916..		\$ 8058.35	
Interest on deposit in Boston Penny Savings Bank, January 1, 1916, to December 31, 1916.....	333.38		
Interest on Massachusetts State Bonds, January 1, 1916, to December 31, 1916.....	390.00		
Life Membership Fee (Wilbur L. Scoville).....	25.00	748.38	8806.73
		<hr/>	<hr/>
Total on hand, January 1, 1917.....			\$21806.73

Ebert Prize Fund. (Established 1873.)

On hand in Boston Penny Savings Bank, January 1, 1916..			\$ 1084.26
Interest on deposit in Boston Penny Savings Bank.....	\$ 43.78		43.78
		<hr/>	<hr/>
Total on hand, January 1, 1917.....			\$ 1128.04

Centennial Fund. (Established 1877.)

Massachusetts 3% Registered Bonds.....			\$ 1000.00
On hand in Boston Penny Savings Bank, January 1, 1916..		\$ 1941.13	
Interest on bonds, January 1, 1916, to December 31, 1916..	\$ 30.00		
Interest on deposit in Boston Penny Savings Bank, January 1, 1916, to December 31, 1916.....	74.98		
Deposited in Boston Penny Savings Bank, January 1, 1916, to December 31, 1916.....		\$ 104.98	

Balance on hand in Boston Penny Savings Bank, January 1, 1917.....	\$ 2046.11
Total on hand, January 1, 1917.....	\$ 3046.11

Endowment Fund. (Established 1906.)

On hand, January 1, 1916.....	\$ 6308.45
Interest on deposit in Boston Penny Savings Bank, January 1, 1916, to December 31, 1916.....	254.84
Total on hand, January 1, 1917.....	\$ 6563.29

Ebert Legacy Fund. (Established 1909.)

St. Louis City registered 4% gold bonds.....	\$ 2000.00
On hand in International Bank, January 1, 1916.....	\$ 2012.05
Interest on St. Louis Bonds.....	\$ 80.00
Interest on deposit in International Bank, January 1, 1916, to December 31, 1916.....	60.15
Net Income.....	140.15
Balance on hand in International Bank, January 1, 1917...	2152.20
Total on hand, January 1, 1917.....	\$ 4152.20

Procter Monument Fund. (Established 1904.)
(Held in Trust.)

On time deposit in International Bank of St. Louis, January 1, 1916....	\$ 5004.96
Interest on time deposit at 4%, January 1, 1916, to December 31, 1916.	87.58
Certificate of deposit No. 63,008 International Bank of St. Louis.....	\$ 5092.54
Deposit in International Bank of St. Louis, January 1, 1916.....	2739.04
Interest on deposit in International Bank, January 1, 1916, to December 31, 1916.....	82.60
Contribution (J. K. Lilly).....	300.00
Balance on hand in International Bank, January 1, 1917.....	3121.64
Total on hand, January 1, 1917.....	\$ 8214.18

College Prize Fund. (Established 1905.)
(Held in Trust.)

On hand, January 1, 1916.....	\$ 36.96
Interest on deposit in Boston Penny Savings Bank, January 1, 1916, to December 31, 1916.....	1.46
Total on hand, January 1, 1917.....	\$ 38.42

Rice Memorial Fund (Transferred from U. S. P. C. in 1913).
(Held in Trust.)

On hand, January 1, 1916.....	\$ 173.26
Interest on deposit in International Bank of St. Louis, January 1, 1916, to December 31, 1916.....	2.60
Total on hand, January 1, 1917.....	\$ 175.86

HENRY M. WHELPLEY, *Treasurer.*

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Office of Publication, 253 Bourse Building, Philadelphia, Pa.

SECTION 304 OF THE WAR REVENUE BILL.

In preparing drafts for revenue measures there is always a danger of exactions that presage for some an unintentional injustice, and this is undoubtedly the case in the amendment that was added to Section 304 of the Senate war revenue bill, providing not only a double tax on alcohol on hand when the law takes effect, but also upon alcohol, "*mixed or combined with any other article.*" The effect of the Act would be to require the manufacturer, as well as the retailer, to inventory the alcohol in preparations, like fluidextracts, etc., as a basis for paying the additional tax thereon, if in excess of 50 gallons, including unmixed alcohol.

Retroactive taxes almost invariably work a hardship, and in this instance, *i. e.*, if the measure, as amended, is enacted, it would financially embarrass many retail druggists and some of the wholesalers and manufacturers. This surely is not the intent of the Government; now is the time for federal coöperation with commercial enterprises; however limited the financial investment may be in small stores, they are large numerically, and their soundness means much to the Government, conscious that the end of the war is undetermined. The great, commendable effort of the United States should be marked by concentrated energy, but the net available money from the proposed taxation would not offset the financial distress that would be created by it, and, therefore, constitutes lost energy. It will require hours of labor to inventory the stocks of various alcoholics, and many additional Government employees to supervise this impracticable undertaking and thereafter considerable time to make the necessary calculations for actual alcoholic content.

Theoretically, tax on a salable article may accordingly advance its value to the owner, but in practice this does not hold good—trade conditions must be considered. A bank may be disposed to increase loans on that basis to some extent, but not commensurate with the tax. Again, the tax must be paid in cash: it is a proposition to pay this in a large sum

and have it returned in small sales, covering an indefinite period.

Another point of view is this: the eagerness to tax alcohol is because of its consumption as a beverage, a luxury, but conditions now are different: alcoholic beverages will be taxed out of existence; prohibition already obtains over a large territory, and the proposed levy resolves itself largely into a taxation on medicinal products, and adds to the burdens of the sick.

While it is realized that the clause may be eliminated before the completion of the August JOURNAL, or the law enacted, the subject is one that should receive editorial consideration. By all means, druggists everywhere should raise the sale price of all taxable articles sufficiently so as to pass the payment of the taxes on to the consumer.

Largely through the efforts of the National Drug Trade Conference, in which the American Pharmaceutical Association holds membership, the objectionable clause referred to in the foregoing paragraphs has been eliminated. However, since then the Senate Finance Committee has agreed to raise the spirit tax to \$3.20 per proof gallon, which is equivalent to \$6.02 tax on a wine gallon of alcohol; therefore, a selling price of \$7.00 or more per gallon must be expected. There are two points to be considered, one on the part of the Government. The purpose is to secure more revenue; the result will probably be the reverse. Manufacturers who have heretofore used alcohol as a solvent will use other solvents instead. The argument already made is also applicable: alcohol is necessary in pharmaceutical manufacture, and therefore the advanced cost must be paid by those needing medicines—the sick, the majority of whom can ill afford to do so.

We have since received the following telegram from Mr. W. L. Crounse, attorney for N. W. D. A.: "Medicinal alcohol subject to tax of \$2.20 per proof gallon, but not subject to additional tax of \$1.00 applicable to beverage alcohol." The tax equivalent on a wine gallon of alcohol for pharmaceutical and medical uses is therefore \$4.14.

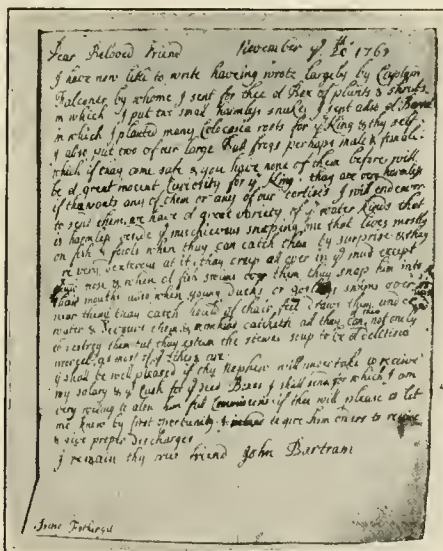
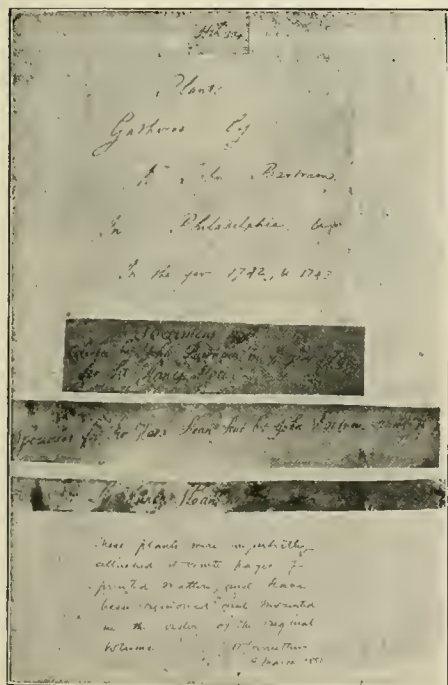
ANNIVERSARY OF AN EVENT OF JULY 1767.

One hundred and fifty years ago, early in July 1767, Benjamin Franklin paid a visit to Peter Collinson, F. R. S., F. S. A., of London, England, the famous Quaker botanist. The anniversary of this occasion was celebrated

magnificent old cypress gathered by John Bartram, the founder of the first botanical garden in America (Philadelphia), and sent to Peter Collinson. Bartram's Garden still exists and has been partially restored; the



This cut shows the Bartram Residence; adjoining is the Bartram Cypress. The cut below is a cover leaf of an herbarium folder, and adjoining is a reproduction of a letter by John Bartram to Doctor Fothergill.



last month, on the lawn of the celebrated Botanical Gardens, now Mill Hill School, London, under the historical trees planted by Linnaeus and other famous botanists of the eighteenth century, among which trees is a

purpose is to continue the work of restoration. We reproduce a picture of the Bartram cypress tree, a view of the Bartram home, still standing, also a photograph of a letter of John Bartram written to Dr. John Fothergill, of

London, and likewise a front leaf of an herbarium folder, and specimen. The wording of the plates is printed as per copies.

It was through Peter Collinson that the King appointed John Bartram botanist and naturalist for exploring the provinces. It was in pursuance of these duties that he explored Florida, and it was here that he found the stripling cypress which grew into the tree shown in the picture. It was killed by a bolt of lightning about twenty years ago; the height of the tree is about 175 feet.

Sir Hans Sloane, referred to on the herbarium sheet, was the founder of the British Museum.

John Bartram was born at Darby, near Philadelphia, March 23, 1699. He founded his botanical garden at Kingessing (now part of Philadelphia), in 1728, and here he died September 22, 1777.

November ye 26th, 1769

Dear beloved friend:

I have now little to write having wrote largely by Captain Falconer by whome I sent for thee a Box of plants & shrubs in which I put two small harmless snakes. I sent also a Barrel in which I planted many Colo casia roots for ye King & thy self I also put two of our large Bull frogs perhaps male & female which if they come safe & you have none of them before will be a great innocent curiosity for ye King, they are very harmless if thee wants any of them or any of our tortises I will endeavor to send them, we have a great variety of ye water kinds that is harmless beside ye mischievous snapping one that lives mostly on fish & fowls when they can catch them by surprise & they are very dexterous at it, they creep all over in ye mud except thair nose & when a fish swims over them they snap him into thair mouths also when young ducks or goslings swims over near them they catch hould of thair feet draws them under water & devours them & mankind catcheth all thay can of them not onely to destroy them but they esteem the stewed soup to be a delicious morcel as most of ye others are.

I shall be well pleased if thy Nephew will undertake to receive my salary & ye Cash for ye seed Boxes I shall send; for which I am very willing to allow him full Commissions if thee will please to let me know by first opportunity. I intend to give him orders to receive & give proper discharges.

I remain thy true friend John Bartram.

Doctor Fothergil

H S 334 ¹/₂

Plants

Gathered by Mr. John Bartram

In Philadelphia, Pa.

In the years 1742, & 1743.

Specimens gath collected by John Bartram
in ye year 1742 for Sir Hance Sloan

Specimens for Sir Hans Sloan Sent by
John Bartram 1743 No. I

Specimens For Sir Hans Sloan Sent by
John Bartram 1743 No. II.

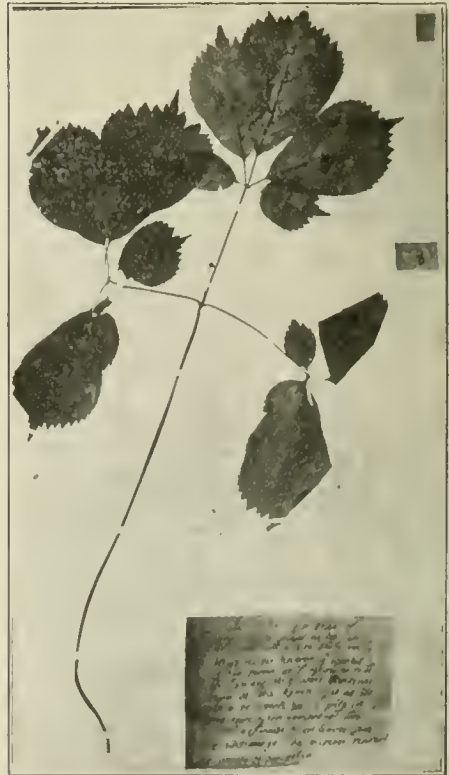
These plants were imperfectly
attached to waste pages of printed
matter, and have been removed and
mounted in the order of the original
volume.

W. CARRUTHERS.

9 March 1888.

8 *Panax quinquefolium* Linn.

This is our gin seng a remarkable
plant in its places of growth which
is in shady rocky rich steep ridges
towards ye sources of our rivers as if



designed to be hid from our use or
abuse; its vertues being as little known
to us as its places of growth which
with its great scarcity, its remarkable
form, its exceeding fineness of its
leaves, long life with its so little in-
crease renders it worthy of our notice.

TRAINED MEN SHOULD NOT BE DRAFTED FOR UNTRAINED SERVICES.

General Crowder, chief of the Provost Marshall's Department, has decided not to turn enlisted medical students, and young doctors, over to the Surgeon General's office of the Army. There is here, as in a great many things, the ever-appearing reference to precedent, often accompanied by a fear that professional service will be given too much military rank.

The stand taken seems unjust to the men, the service and the profession. The visiting Chief Surgeon of the English Army has warned our own people against blunders that cost England dear, and we should profit by them.

Pharmacy has not been recognized at all professionally, and still pharmacists are required for professional services, evidencing both their need and value, without commensurate pay nor any military rank whatever. It was contemplated to continue on this basis, but we believe now, that Congress will recognize the injustice and that the medical profession will be more intensely impressed with the justice and merit of what pharmacists are asking for, and aid in the passage of H. R. 5531, which it is to be hoped will also find favor with the Surgeon General.

A related experience is sometimes more persuasive than direct argument.

Secretary of War, Newton Diehl Baker, was commencement orator at the University of North Carolina; Secretary Josephus Daniels also delivered a short address. President Graham announced the promotion of J. G. Beard from assistant professor to associate professor of pharmacy.

Herbert Carl Raubenheimer, son of Professor Raubenheimer, chairman of the Committee on the A. Ph. A. Recipe Book, graduated with honors from the Department of Pharmacy of the College of Jersey City and received several gold medals and special prizes.

Mrs. Wilbur L. Scoville, wife of Professor Scoville, acting chairman of the N. F. Committee, died July 16. Mrs. Scoville had been sick for more than a year, prior to her death.

Hon. George Washington Edmonds, Congressman from the Fourth District of Pennsylvania, has introduced a bill in Congress (H. R. 5531), providing for a Pharmaceutical Corps in the Army. While not now in the drug business, he is a graduate of the Philadelphia College of Pharmacy.

The Department of Justice has made the positive statement that court plaster, infected with tetanus germs, has been sold in the United States. Newspaper accounts report the sale of infected soap. This, however, has not been substantiated.

OBITUARY.

ROBERT H. LAND.

Lacking just a little of being 83 years of age, there passed on recently in Augusta, Georgia, after some sixty years of useful life in that city, Robert H. Land. (Mr. Land was born March 10, 1834, and died February 8, 1917.—EDITOR.)

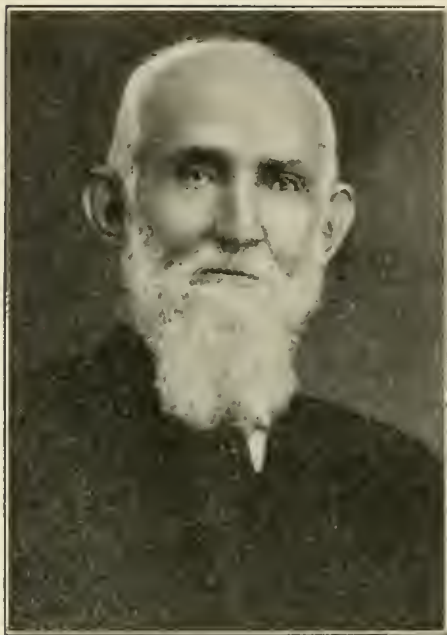
Here was a man who seemed really to be the very incarnation of pharmacy; yet it is not certain but that his attainments in chemistry and botany were nowise less than in his chosen profession. It is doubtful indeed, if any man in the South Atlantic States was superior to Mr. Land in any one of these three sciences.

From the physical side, his life was no less remarkable. He was frail looking and slender, not weighing over 100 pounds, and still he had scarcely ever a day of illness in his life; he went through the Confederate War from '61 to '65, and then walked all the way back

from the battlefield of Virginia to Augusta, safe and sound. He was engaged actively in the business of pharmacy and selling drugs from 1851 (less the days of the war) until several years ago. To the last he was full of cheerfulness, humor and good comradeship. He never lost his happy interest in life, and with full mentalities kept up his intense love for reading and studying.

In 1851 he was employed in the drug business of Dr. Pratt, Newberry, S. C. In 1861 he left Newberry for the army. During these ten years, with an able preceptor, plenty of books and the use of a well-equipped laboratory and an herbarium, he laid the foundation of his knowledge in botany, chemistry and pharmacy. He was, however, a student all of his life.

In 1865 he tramped back to Augusta and entered the drug business of Dr. W. H. Tutt, whose drug store perhaps, in those days



ROBERT H. LAND

(Member of the A. Ph. A. for 58 years)

was the finest of this section; in three years the firm was Tutt & Land. Later on he was the leading force in the drug house of Barrett & Land. These two firms were the largest drug firms in those days of the Southeast. He afterward carried on, in a more quiet way, a retail business in Augusta under his own name.

He was a life member of the American Pharmaceutical Association, joining in 1859. He was a charter member of the Georgia Pharmaceutical Association, and its third president.

At various times he did valuable work for the United States Pharmacopoeia and in earlier years was a frequent contributor to various drug journals.

He was remarkable for his keenness for scientific knowledge; for this he was always delving. The spirit of discovery was predominant in his mind. Through his proficiency in science he was enabled to be of great service and his reputation, especially in pharmacy, extended beyond his own section of the country. With him, a useful life passed out.

N. L. WILLET.

SOCIETIES AND COLLEGES.

LAST CALL FOR THE A. PH. A. MEETING.

On August 27th, Indianapolis will welcome the annual convention of the American Pharmaceutical Association. It is reported that plans have been made to entertain a record-breaking number at this meeting and from the information regarding the important features of this wartime convention it seems likely that the committees have been planning both wisely and well.

There has never been a time in the history of the parent association when pharmacy was so much in need of safe reasoning and careful planning as it is at the present time. It seems particularly fortunate that Indianapolis was chosen for the 1917 meeting as its central location makes it easy of access to all points of the country.

The Claypool Hotel will be used as headquarters. This hostelry is amply provided with convention halls and committee rooms and is ideally located for such gatherings as the A. Ph. A. meeting. The rates are from

\$1.50 to \$5.00 a day for one person. Other excellent hotels are: The Severin, the Washington and the Denison, all centrally located and within a two minutes' walk of headquarters.

Rates from \$1.00 a day and upward have been secured at the Colonial, the English, the Grand, the Edward, the Linden and the Oneida. The Puritan and the Williams, a trifle more remote from headquarters, are new, moderate in price, and offer excellent accommodations.

The National Association of Boards of Pharmacy will open the first business of the convention on Monday, August 27th and the American Conference of Pharmaceutical Faculties will also have the first business meeting on that day.

The first general session will convene on Tuesday, and on the succeeding days the regular sessions of the scientific, commercial, and women's sections will be held.

There will be an excursion to Indianapolis Industrial Plants on Tuesday afternoon, and

on Wednesday a musical will be given for the ladies. The President's reception will be held on Wednesday evening.

Thursday morning the ladies will be entertained with an automobile ride about the city. On returning the visiting ladies will be entertained at luncheon.

Arrangements have been made to inspect the Lilly Laboratories on Thursday evening and the Lilly Company will arrange to have the entire laboratory force on duty. This will make it possible for the members of the association to make this laboratory inspection without being absent from important business meetings.

After the sessions on Friday the entertainment committee will have a deep, dark secret to "spring." Just what the plans are no one seems to know but assurance is given that it will be a unique entertainment and one that will be heartily enjoyable for both sexes and young and old alike. It is said that this evening's fun will be the crowning entertainment feature of the convention.

It is not too late to plan to visit Indianapolis and attend this important meeting of the parent pharmaceutical association, and it is earnestly to be hoped that everyone who is interested in the welfare and betterment of his profession will make a strong endeavor to be present. —Publicity Committee.

NATIONAL PHARMACEUTICAL SERVICE ASSOCIATION.

Concerted action for securing commissioned rank for pharmacists in the Government service was taken at Philadelphia on the evening of June 26, 1917, when representatives of the Philadelphia Branch of the American Pharmaceutical Association, Philadelphia Association of Retail Druggists, Philadelphia Drug Exchange, and the Philadelphia College of Pharmacy met and formed a permanent organization for the express purpose of securing adequate recognition of all branches of pharmacy. Much progress has been made since the first meeting and it seems as though the fruits of the labor of those who have been charged with the work of this Association are about to be realized.

The permanent organization which was formed was called the National Pharmaceutical Service Association and the following officers and executive committee were elected: *President*, Geo. M. Beringer, Camden, N. J.; *Vice-President*, Charles H. LaWall, Phila-

delphia; *Secretary-Treasurer*, Robert P. Fischelis, Philadelphia; *Executive Committee*, Jos. W. England, Walter B. Smith, Ambrose Hunsberger, E. G. Eberle, Samuel C. Henry, J. C. Peacock, W. D. Robinson, F. E. Stewart, and the officers of the Association.

Copies of the constitution and by-laws of the newly formed Association and an announcement as to its objects have been mailed to quite a number of pharmacists in various sections of the United States, as it is the object to enlist as many members in the cause as possible so as to present a strong united front to the authorities.

On July 24, Surgeon-General Gorgas, of the United States Army, granted representatives of this Association an interview in his office in Washington. President Beringer, Jos. W. England, E. G. Eberle and S. L. Hilton represented the pharmacists on this occasion and the Surgeon-General appointed a committee of Army surgeons to carefully consider the matter presented. The pharmacists were asked to present their request in writing after the conference had been held, and careful consideration of their views was promised.

In the meantime, the Executive Committee of the National Pharmaceutical Service Association has drawn up a bill for presentation to Congress (H. R. 5531), authorizing the formation of a pharmaceutical corps in the Army, presided over by a major who must be a pharmacist, and other supporting officers who must likewise possess pharmaceutical qualification. The bill, if passed, will permit those now in the hospital corps who have had pharmaceutical training to rise to commissioned rank after a term of service and upon presenting proper qualifications.

It is to be hoped that the response to the request for more members who are willing to support this movement will be sufficiently great to carry on the work which is necessary to send this bill through Congress. The membership fee is only one dollar and should be remitted to Secretary Robert P. Fischelis, 828 N. 5th St., Philadelphia. It will be realized that for success there must be continued activity and the expenditure of considerable money for proper promotion. Therefore every pharmacist is requested to give not only his influence but financial assistance in this limited way, or by larger donation if he is so disposed. Coöperation is the thing.

The Association does not aim to displace any other organization of druggists or pharmacists but to coöperate with them, and their support is solicited for the specific objects of the Association. The general objects of the Association are: To assist in providing the best possible pharmaceutical service for the Government; to provide for supplies of dependable drugs and medicines; to advance the science and art of pharmacy in the U. S. Government service; to secure for pharmacy a recognition by the Government commensurate with its importance, and to improve the conditions of pharmaceutical practice in the Army, Navy and Public Health Service.

1. To modernize and develop the pharmaceutical service of the Government according to the most advanced professional standards.

2. To secure the establishment of a pharmaceutical corps in the U. S. Army and to provide commensurate rank for the professional services rendered by the enlisted pharmacists.

3. To improve the standing of pharmacists in the Navy.

4. To secure pharmaceutical representation on the Advisory Council to the Committee on National Defense.

5. To coöperate with the Government and the medical profession, both locally and nationally, in providing the best medical attention for those in the service whether in the fields or in hospitals.

AMERICAN CHEMICAL SOCIETY.

The September meeting of the American Chemical Society will be held in the buildings of the Massachusetts Institute of Technology, Charles River Road, Cambridge, Mass., September 11, 12 and 13, 1917. The North-eastern Section has been requested by the Directors to omit the usual annual banquet and excursions, and to arrange a program characterized by simplicity and seriousness, and bearing as fully as possible on questions concerning the activities of chemists—both in the government service and in the industries during the war.

The following Divisions of the Society and announcements of the program are of interest to pharmacists:

Division of Organic Chemistry will hear and discuss the report of the Committee on "The Supply of Organic Chemicals for Research during the War," by the Chairman, C. S. Hudson.

Division of Pharmaceutical Chemistry.—Con-

ference on "Pharmaceutical Chemistry and the Future," opened by L. F. Kebler. The Secretary of the Division, Dr. Geo. D. Beal, calls the attention of the members to the fact that papers on the composition of plant drugs or any of their constituents, the composition of volatile oils, etc., are appropriate to the program of this division. Papers on pharmacological testing should also be presented to this division.

NATIONAL EXPOSITION OF CHEMICAL INDUSTRIES.

All things point to the Third National Exposition of Chemical Industries at the Grand Central Palace, New York, during the week of Sept. 24, being a much greater success than its predecessors, and will be the largest and most complete exposition of these industries ever held at any place in the world.

NEW OFFICERS OF STATE PHARMACEUTICAL ASSOCIATIONS.

ALABAMA.

Alabama Pharmaceutical Association met at Tuscaloosa, June 19-20. The following officers were elected: *President*, C. R. Walker, of Ensley; *Vice-Presidents*, J. F. Spearman, of Anniston, Luther Davis, of Tuscaloosa; *Treasurer*, S. M. Toomer, of Auburn; *Secretary*, W. E. Bingham, of Tuscaloosa; *Executive Committee*, J. H. Humphries, of Huntsville, Carl Wharton, of Gadsden, J. R. Edwards, of Anniston. Huntsville was selected for the next meeting place.

CONNECTICUT.

Connecticut Pharmaceutical Association convened at Morris Cove, June 20-21. One hundred dollars was voted by the Association for the Red Cross. Officers for the ensuing year were elected as follows: *President*, Carl S. Ramsey, New Britain; *Vice-Presidents*, E. T. Nolan, of Torrington, and C. T. Hull, New Haven; *Secretary-Treasurer*, P. J. Garvin, Bethel.

IDAHOO.

Idaho Pharmaceutical Association convened at Guyer Hot Springs, Ketchum, July 11-12. Officers were elected as follows: *President*, A. E. Sutton, of Caldwell; *Vice-Presidents*, C. O. Ballou, of Boise, and A. B. Caldwell, of Twin Falls; *Secretary*, Vic Stolle, of Boise;

Treasurer, L. A. Harmon, of Caldwell. Next year's meeting will be held at Nampa, June 12 and 13.

KENTUCKY.

Kentucky Pharmaceutical Association held its fortieth annual meeting in Louisville, June 19-21. The following officers were elected for the ensuing year: *President*, W. B. Montgomery, Caneyville; *Secretary*, J. W. Gayle, Frankfort; *Treasurer*, Vernon Driskell, Carrollton; *Chairman Executive Committee*, Leon Abrahams, Louisville.

MAINE.

Maine Pharmaceutical Association held a business session in Portland, June 29. Officers were elected as follows: *President*, H. C. Buxton, of Fort Fairfield; *Vice-Presidents*, F. H. Neal, of Fairfield, E. F. Carswell, of Gorham, and Fred Cox, of Bath; *Secretary*, Dr. M. L. Porter, of Danforth; *Treasurer*, A. W. Meserve, of Kennebunk.

MARYLAND.

Maryland Pharmaceutical Association convened at Ocean City, July 9-13. A committee was appointed, consisting of Messrs. John B. Thomas, D. R. Millard, R. E. L. Williamson, Dr. Charles Caspari, Jr., James E. Hancock, and E. F. Kelly, to coöperate with the American Pharmaceutical Association in the effort to have a Pharmaceutical Corps established in the U. S. Army. Reasonable revision of the U. S. Patent Laws was advocated. The following officers were elected: *President*, Eugene W. Hodson, of Baltimore; *Vice-Presidents*, W. H. Clarke, of Pocomoke City, D. R. Millard, of Baltimore, and G. E. Pearce, of Frostburg; *Secretary*, E. F. Kelly, of Baltimore; *Treasurer*, Samuel Y. Harris, of Baltimore.

MASSACHUSETTS.

Massachusetts Pharmaceutical Association convened in annual session at the New Ocean House, Swampscott, June 19-21. Patriotism was evident, revision of U. S. Patent Laws was recommended, and the Scholarship in Massachusetts College of Pharmacy was continued. The following officers were elected: *President*, Walter S. Doane, of Worcester; *Vice-Presidents*, Clifford P. Thompson, of Springfield, Charles C. Hearne, of Springfield, and Alfred J. H. Paquette, of Lynn; *Secretary*, James F. Guerin, of Worcester; *Treasurer*, James F. Finneran, of Boston.

NEBRASKA.

Nebraska Pharmaceutical Association met at North Platte June 19-20. Prof. Henry Kraemer, of Philadelphia, Pa., was the guest of the Association and delivered an illustrated lecture on "Drug Plants." Dr. Barrowman, chemist at the State University, gave an illustrated lecture on "The Potash Industry of Western Nebraska." Officers were elected as follows: *President*, Neils Mikkelsen, of Kenesaw; *Vice-Presidents*, W. R. Wright, of Callaway, J. H. Stone, of North Platte, A. H. Brooke, of Hastings, William Milder, of Omaha, and Charles Rutherford, of Aurora; *Secretary*, J. G. McBride, of University Place; *Treasurer*, D. D. Adams, of Nehawka. Lincoln was selected as the meeting place for next year.

NEW HAMPSHIRE.

New Hampshire Pharmaceutical Association held its annual convention in Joliet Hall, Manchester, June 26. Officers for the ensuing years were elected as follows: *President*, William McCullis, Bristol; *Vice-Presidents*, A. E. Wallace, of Nashua, George F. Barbour, of Concord; *Secretary*, Eugene Sullivan, of Concord; *Treasurer*, S. Howard Bell, of Derry.

NORTH CAROLINA.

North Carolina Pharmaceutical Association convened at Asheville, June 19-21. The establishment of a Pharmaceutical Corps was advocated. The following officers were elected for the ensuing year: *President*, G. A. Matton, High Point; *Vice-Presidents*, S. E. Welfare, Winston-Salem, G. R. Pilkington, Pittsboro; E. E. Missildine, Tryon; *Secretary*, J. G. Beard, Chapel Hill; *Acting Treasurer*, J. G. Beard. Raleigh was selected as the next place of meeting.

OHIO.

Ohio Pharmaceutical Association convened at Cedar Point July 10-12. The efforts to establish a Pharmaceutical Corps in U. S. Army and to seek recognition for pharmacy on the Advisory Commission of the Council of National Defense were endorsed. Officers were elected as follows: *President*, E. H. Thiesing, of Cincinnati; *Vice-Presidents*, J. W. Dysle, of Marietta, and Charles Krone, of Hamilton; *Secretary*, T. D. Wetterstroem, of Cincinnati; *Treasurer*, L. W. Funk, of Columbus. An attempt will be made to hold the 1918 meeting on board a steamer en route to Mackinac.

OREGON.

Oregon Pharmaceutical Association met at Seaside July 10-13. Officers were elected for the ensuing year as follows: *President*, W. H. McMair, of Ashland; *Vice-Presidents*, H. F. Brandon, of Portland, E. A. Robinson, of Portland, and J. C. Perry of Salem; *Secretary*, A. W. Allen, of Portland; *Treasurer*, B. F. Jones, of Portland.

RHODE ISLAND.

Rhode Island Pharmaceutical Association met in semi-annual session at Lake Pearl, Wrentham, Mass, July 11.

UTAH.

Utah Pharmaceutical Association met at Salt Lake City, June 20-21. Two annual scholarships were provided for in the Department of Pharmacy, Utah University, one for women, the other for men. Officers were elected as follows: *President*, H. H. Peterson, of Richfield; *Vice-Presidents*, J. L. Boyden, of Coolville, and June Clark, of Ogden; *Secretary*, F. J. Folland, of Salt Lake City; *Treasurer*, John Culley, of Ogden. Provo was selected for the next place of meeting.

VERMONT.

Vermont Pharmaceutical Association at its 24th annual meeting at the Lake Dunmore Hotel, Salisbury, re-elected the officers, as follows: *President*, Fred. W. Churchill, of Proctor; *Vice-Presidents*, W. G. Sargent, of Brattleboro, F. L. Dutcherd, of St. Albans, Mrs. Ida B. Jones, of Johnson; *Secretary-Treasurer*, W. E. Terrill, of Burlington.

VIRGINIA.

Virginia Pharmaceutical Association held its thirty-sixth annual meeting at Old Point Comfort, July 10-12. Revision of the U. S. Patent Laws was endorsed and also the establishment of a Pharmaceutical Corps in U. S. Army. Officers were elected as follows: *President*, C. H. Goldsboro, of Culpeper; *Vice-Presidents*, G. E. Thompson, of Chatham, and D. E. Seagle, of Pulaski; *Secretary*, E. L.

Brandis, of Richmond; *Treasurer*, W. F. Rudd, of Richmond; *Local Secretary*, C. D. Fox, of Roanoke; *Member of the Executive Committee*, W. G. Williams, of Charlotte Courthouse; *Member of the Entertainment Committee*, R. C. Davis, of Richmond. The 1918 meeting will be held at Natrual Bridge.

WASHINGTON.

Washington Pharmaceutical Association convened at Spokane, June 14-16. Revision of U. S. Patent Laws was advocated and also recognition of the pharmacists' services by the Government. The officers elected are: *President*, H. G. Duerfeldt, of Spokane; *Vice-Presidents*, A. A. Tozer, of Everett, Mrs. Emily McRae, of Spokane, and G. C. Norton, of Tacoma; *Secretary*, G. Elmer Brown, of Spokane; *Treasurer*, G. A. Lukens, of Spokane.

WEST VIRGINIA.

West Virginia Pharmaceutical Association met at Deer Park, Md., June 19-20. Officers were elected as follows: *President*, O. O. Older, of Charleston; *Vice-Presidents*, Fred Allen, of Horton, and H. J. Haggerty, of Clarksburg; *Secretary*, A. B. Berry, of Morgantown; *Treasurer*, G. A. Bergy, of Morgantown. The next meeting will be held at Charleston, W. Va.

WISCONSIN.

Wisconsin Pharmaceutical Association met in Milwaukee, June 25-29. A Pharmaceutical Corps was endorsed and also recognition on the Advisory Commission. The work of the Department of Pharmacy of the State University was heartily endorsed. Dr. Edward Kremers made a plea for a Pharmacal Research Bureau. Officers were elected as follows: *President*, J. J. Possehl, of Milwaukee; *Vice-Presidents*, B. Schwanberg, of Wausaw, F. W. Mueller, of Oshkosh, and A. C. Otto, of Grand Rapids; *Secretary*, E. G. Rauber, of Milwaukee; and *Treasurer*, Henry Rollman, of Chilton.

NEW RULING ON UNCOMPLETED NARCOTIC ORDERS.

The Commissioner of Internal Revenue has ruled that, "where it is impossible to completely fill an order for narcotic drugs, the wholesaler should advise the customer that his order will be cut, a notation to that effect being made on the original order form and the customer being instructed to make the same endorsement on the duplicate form. When it is not contemplated to complete the order at a subsequent date, a separate letter should be written the customer to the effect that no more narcotic drugs will be supplied upon the incompletely filled order form, and that this letter closes the transaction so far as that particular order form is concerned."

A. PH. A. MEMBERSHIPS AWARDED
DURING 1917 AS PRIZES BY COL-
LEGES, SCHOOLS, ASSOCIA-
TIONS AND BOARDS OF
PHARMACY

This list is not complete as we have not had returns from all schools, etc. When these are received the same recognition will be given in a succeeding number of the Journal.

BROOKLYN COLLEGE OF PHARMACY.—The Trustees of the College awarded to Rebecca Ocheret the prize for the Senior student who showed particular ability in manipulation, accuracy, handling and care of apparatus and in scientific investigation.

BUFFALO COLLEGE OF PHARMACY.—Four prizes were awarded for best general average during the Senior year. They were received by Mrs. Pauline S. Lucas, Arthur C. Elden, Clifford A. Noble and Raymond G. Helwig.

CLEVELAND SCHOOL OF PHARMACY.—The membership prize in Practical Pharmacy offered by Lewis C. Hopp was awarded to Sherman Baird Andrews.

FORDHAM UNIVERSITY COLLEGE OF PHARMACY.—Dean Dr. Jacob Diner reports that, owing to the fact that all of their graduates of 1917 voluntarily joined the American Pharmaceutical Association, no prize was awarded.

UNIVERSITY OF ILLINOIS SCHOOL OF PHARMACY.—The prize in Materia Medica was awarded to Rose J. Ruder, the one in Chemistry to Emil Paul Rauschert, and that in Pharmacy to Charles Bidwell. The Win. Gray prize was awarded to Hans W. Vahlteich.

UNIVERSITY OF IOWA COLLEGE OF PHARMACY.—One prize for highest rank in competitive examination in Pharmacognosy was awarded to Edward J. Meister, by Dean W. J. Teeters. One prize for excellence in Organic Chemistry was awarded to Earl L. Hazeldine, by Gus. Scherling. A prize, a subscription to the JOURNAL A. PH. A., was awarded to Yula Rudolph Doden, by R. A. Kuever. The prize for excellence in Vegetable Microscopy offered by J. M. Lindly was awarded to Robert Henry Boerner.

COLLEGE OF JERSEY CITY.—The prize was awarded for proficiency in Pharmacy to Abraham Silverman, Ph.M.

LOUISVILLE COLLEGE OF PHARMACY.—The prize for highest general average in the Post-Graduate Course was awarded to John Luther Guice.

MASSACHUSETTS COLLEGE OF PHARMACY.—Five prizes were awarded; one offered by E. H. LaPierre in Pharmacy, to Stanley W. Foulser; one offered by Dean T. J. Bradley in Analytical Chemistry to Edward E. Orr; one offered by C. H. Packard in General Chemistry, to Eugene L. Sharkansky; one offered by J. G. Godding in Organic Chemistry, to Vincent J. Fitz-Simon; and, one offered by H. H. Smith in Materia Medica, to Edna M. Follensby.

NEW ORLEANS COLLEGE OF PHARMACY.—The prize was awarded for the third highest average in all branches to Frank J. Calderone.

NEW YORK COLLEGE OF PHARMACY.—Two prizes offered by J. L. Lascoff for best average in entire course were awarded to Julius Ginsberg and Leonard Steiger.

OKLAHOMA UNIVERSITY SCHOOL OF PHARMACY.—The John Barbour prize for highest average during Senior year was awarded to Donovan D. Mosher.

PHILADELPHIA COLLEGE OF PHARMACY.—Two prizes offered by C. H. LaWall for best term work in Theory and Practice of Pharmacy were awarded to Walding George Rupp and Howard William Griesing.

PITTSBURGH COLLEGE OF PHARMACY.—Five prizes were awarded: one in Materia Medica to Miss D. B. Webber, one in Pharmacy to Leon Rovno, one in Chemistry to H. F. Easley, one in Pharmacognosy to Miss Mabel F. Arney, and one in Pharmaceutical Products to Andrew Zacovic.

ST. LOUIS COLLEGE OF PHARMACY.—Membership prize offered by the College was awarded to Emmett Boone.

VALPARAISO SCHOOL OF PHARMACY.—The prize in Organic Chemistry, offered by G. D. Timmons, was awarded to G. W. Lloyd Plette; that in Manufacturing Pharmacy, offered by E. H. Wisner, to C. H. Bitowski; that in Analytical Chemistry, offered by W. O. Speer, to Thomas N. Beavers.

THE PHARMACIST AND THE LAW.

A BILL TO PROVIDE FOR A PHARMACEUTICAL CORPS NOW BEFORE CONGRESS.

In the House of Representatives, July 25, 1917, Mr. Edmonds introduced the following bill, which was referred to the Committee on Military Affairs, and ordered to be printed:

A BILL

To increase the efficiency of the Medical Department of the United States Army, to provide a Pharmaceutical Corps in that department, and to improve the status and efficiency of the pharmacists of the Army.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That hereafter there shall be attached to the Medical Department of the United States Army a Pharmaceutical Corps, composed of citizens of the United States, to perform the duties defined in this Act and such related duties as may be prescribed, from time to time, by the Surgeon General.

Sec. 2. That the Army Pharmaceutical Corps shall consist of one pharmacist director, with rank of major, who shall be chief of the Pharmaceutical Corps, five deputy pharmacist directors, with the rank of captain, and such number of pharmacists, with the rank of lieutenant, and of pharmacist apprentices, as may be needed for the service.

Sec. 3. That the Army Pharmaceutical Corps shall be charged with the following specific duties: To procure by purchase or manufacture all supplies of medicines, drugs, chemicals, pharmaceutical apparatus, and hospital and surgical dressings necessary for the Medical Department of the Army; to determine the quality and purity of such supplies; to have charge of the medical supply depots of the Army and the storage and safeguarding of such supplies; to provide for the issuance and distribution of such supplies and the dispensing of medicines in the various hospitals, dispensaries, infirmaries, trains, and camps of the Army; to properly care for, regulate the dispensing, and to systematically account for all spirituous liquors and habit-forming drugs purchased for the department; to procure by purchase or manufacture such drugs, chemicals, reagents, tests, and biologic products as are used in the laboratories and

the medical and surgical practice of the department for the purpose of diagnosis, prophylaxis, or treatment; to account for all moneys received from sales of medical supplies, in accordance with the provisions of the Army regulations or disposed of by order of competent authority; to inspect the department's stores and supplies of drugs, medicines, hospital dressings, reagents, tests, and biologic products and determine their deterioration and fitness for use; to cooperate with the other branches of the department in rendering first aid and wound dressing and in the making of diagnostic and chemical tests; to establish and maintain a systematic course of study and training, including the advances made in medicine, pharmacy, and sciences allied thereto, to be pursued by the members of the Army Pharmaceutical Corps who are seeking promotion in the Corps.

Sec. 4. That the pharmacist director shall be a graduate of a reputable school of pharmacy, have had not less than five years of pharmaceutical experience, and have established a creditable record in the profession of pharmacy.

The duties of the pharmacist director shall include the following: To have supervision over the Army Pharmaceutical Corps; to see that discipline is maintained and duties are efficiently performed; to formulate rules and regulations, subject to the approval of the Surgeon General, for coordinating the work of the Pharmaceutical Corps with the duties of the other branches of the Medical Department; to approve all contracts for supplies procured by the Corps; to inspect, either in person or by deputy, all deliveries of supplies and pass upon the purity and quality thereof, and compliance with specifications and the acceptance or rejection; to have the authority to inspect the manufacture of such supplies, and to direct their manufacture in any factory or laboratory that may be taken over by the Government, or that may be established by the Government, for their production; to establish standards for supplies of nonofficial drugs, chemicals and preparations, and, where feasible, prescribe the methods of assay for these; to publish, with the approval of the Surgeon General, formulas for nonofficial preparations, reagents, and tests used in the Army Medical Department, and all formulas so published shall be authoritative in the Army Medical Department; to recommend alternates or

substitutes for proprietary, expensive, rare, or unobtainable drugs or preparations; to prepare specifications and estimates for Army medical supplies; to pass upon requisitions for supplies; to provide regulations for the storage, safeguarding, and preservation of Army medical supplies, and the distribution and issuing of such supplies; to see that accounts of the receipts and disbursements of all supplies are properly kept, with special records of the purchases and disposition of spirituous liquors and habit-forming drugs; to have inspections made of the medical supplies, and recommend appropriate disposition of condemned, deteriorated or unreliable supplies; to preserve the files, correspondence, and official records of the corps; to prepare a syllabus covering a systematic course of professional study to be followed by members of the Pharmaceutical Corps; to cooperate in the professional examinations of applicants for enlistment in the pharmaceutical service, or for promotion within the corps; to recommend transfer of members of the Pharmaceutical Corps and promotion for service or special recognition for distinguished service. He shall outline a course of instruction for pharmacists if an Army pharmacist training school is established.

In the absence of the pharmacist director a deputy pharmacist director shall be named as acting pharmacist director. The various duties specified above as within the province of the pharmacist director, with the approval of the Surgeon General, may be distributed or assigned to the deputy pharmacist directors.

The deputy pharmacist directors shall be pharmacists of unquestioned professional repute who are graduates of reputable schools of pharmacy and have had not less than five years of pharmaceutical experience.

Any American citizen, graduate of a reputable school of pharmacy, of good moral character and between twenty-one years and forty-five years of age, both inclusive, who can pass the usual physical examination required for appointment in the Medical Corps and the professional examinations, which shall include tests of skill in practical pharmacy and of proficiency in the usual subjects of a standard school of pharmacy course, may be appointed as a pharmacist in the Pharmaceutical Corps.

An original appointment as pharmacist under this Act shall entitle the appointee to the rank and commission of second lieutenant. After the expiration of the first five years of

service, with honorable discharge, the pharmacist may reënlist at any time within six months from the date of expiration of such prior service, and he may then apply for examination for promotion, and if his physical examination and the professional examination in subjects of advanced pharmaceutical education are satisfactory, he shall be eligible for promotion to the rank and commission as first lieutenant, Pharmaceutical Corps. After fifteen years of service in the Pharmaceutical Corps a pharmacist with the rank of first lieutenant, Pharmaceutical Corps, may apply for examination for promotion. If he successfully passes the necessary examination in post-graduate pharmaceutical studies, and if in the opinion of the pharmaceutical director such promotion is merited, he shall be promoted to the rank and commission of captain, Pharmaceutical Corps.

Any citizen of the United States between seventeen years and thirty-five years of age, both inclusive, who can pass the necessary physical and preliminary educational examination prescribed by the Secretary of War may enlist as a pharmacist apprentice. Pharmacist apprentices shall act as assistants to the pharmacists and to the Hospital Corps. After serving for one year in this capacity the pharmacist apprentice may, with the approval of the pharmacist or the surgeon under whom he has served, apply for examination for promotion; and if he passes the examination in preliminary education and the elementary pharmaceutical branches, he shall be promoted to the grade of pharmacist apprentice, first class, with rank as sergeant. After five years of service, with honorable discharge, the pharmacist apprentice may reënlist and may apply for examination and promotion to the grade of pharmacist with commission as second lieutenant; *Provided*, That after two years of service the Secretary of War, upon recommendation of the pharmacist director, may grant to a pharmacist apprentice sufficient leave of absence from the service to permit the apprentice attending a school of pharmacy to fit himself for advanced rank in the Pharmaceutical Corps. Such leave of absence shall be without pay, but shall not be deducted in computing the length of service.

The Secretary of War is authorized to appoint boards of three examiners to conduct the professional examinations herein prescribed; *Provided*, That at least one member of each of the boards so appointed shall be a pharmacist.

That, whereas there are now in the service of the War Department a number of pharmacists and druggists ranking as master hospital sergeants, hospital sergeants, sergeants first class, and sergeants, all such shall be eligible to transfer to the Pharmaceutical Corps created by this Act and to the service, rank, pay, and promotion in rank as provided herein, and that the time already spent as pharmacists in the War Department shall be computed as part of their service in the Pharmaceutical Corps.

That in emergencies the pharmacist director, upon the recommendation of the Surgeon General, and with the approval of the Secretary of War, may appoint as many contract pharmacists as may be necessary, at a compensation not exceeding \$150 each per month, and provided that the age limit and professional examination may be waived in the case of any contract pharmacist whose character, experience, and professional education is deemed by the pharmacist director to be satisfactory. The temporary appointment of a contract pharmacist shall not carry commission or right of retirement in accordance with the Army Regulations.

Sec. 5. That all appointees authorized by this Act shall take rank and precedence in the same manner in all respects as in the case of appointees to the Medical Corps of the Army, and shall not exercise command over persons other than those in the Pharmaceutical Corps and such enlisted men as may be detailed to assist them by competent authority.

That all officers of the Pharmaceutical Corps shall receive the same pay, awards, and allowance as the officers of corresponding rank and

length of service in the Medical Corps of the Army and shall be eligible to retirement in the same manner and under the same conditions.

That the pay of the pharmacist apprentice shall be \$33 per month and that of the pharmacist apprentice first class, with rank of sergeant, shall be \$37 per month, and for each reenlistment in this service they shall receive the usual increase allowed in the Army for honorable discharge and reenlistment.

Sec. 6. That all laws and parts of laws inconsistent with the provisions of this Act be, and the same are hereby, repealed.

H. R. 5531—2.

FIRST ARRESTS MADE UNDER PENNSYLVANIA'S NEW ANTI-NARCOTIC LAW.

The first arrests under the new Pennsylvania anti-narcotic law were made in Philadelphia July 31. The law makes it a misdemeanor to have the proscribed drugs in one's possession, unless the possessor is so authorized under the law.

THE NEW YORK ANTI-NARCOTIC LAW IS SAID TO BE DEFECTIVE.

The Whitney bill requires hospitals, etc., to use order blanks for purchasing narcotics but fails to enumerate them among those entitled to order blanks; there are said to be a number of other flaws in the act and some will require correction. The law was to have become effective July 1, but because of the non-receipt of the necessary order blanks, which are essential to its enforcement, August 1 was named as the day on which the law shall become effective.

UNITED STATES PUBLIC HEALTH SERVICE.

List of changes of duties and stations of commissioned and other officers of the United States Public Health Service for the seven days ended July 18, 1917.

Prof. E. B. Phelps. Proceed to Chicago and other places in Illinois, Indiana and Ohio, on special temporary duty. July 16, 1917.

Phar. C. C. Cannon. Relieved at Stapleton, N. Y. Report at Hygienic Laboratory, Washington, D. C. July 9, 1917.

Phar. Clyde Ritter. Relieved at Hygienic Laboratory. Proceed to Marine Hospital, St. Louis, Mo. July 9, 1917.

Phar. C. H. Parker. Relieved at St. Louis, Mo. Proceed to Cape Charles Quarantine Station. July 9, 1917.

Phar. R. D. Kinsey. Relieved at Cape Charles Quarantine Station. Proceed to Sta-

pleton, N. Y., Marine Hospital. July 9, 1917.

Sanitary Engineer H. W. Streeter. Proceed to Des Moines, Iowa, on special temporary duty. July 16, 1917.

Sanitary Engineer L. C. Frank. Proceed to Chillicothe, Ohio, on special temporary duty. July 16, 1917.

Sanitary Chemist H. B. Corson. Proceed to Chicago, Ill., on special temporary duty. July 17, 1917.

Sanitary Engineer W. D. Wrightson. Relieved at Chicago, Ill. Proceed to Louisville, Ky., on special temporary duty. On completion of this duty, proceed to such places in States south of the Potomac and east of the Mississippi Rivers as may be necessary in connection with malaria studies, with station at New Orleans, La. July 6, 1917.

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of the change of address is received before shipment or mailing.

Both the old and the new address should be given thus:

HENRY MILTON,

From 2342 Albion Place, St. Louis, Mo.

To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

CHANGE OF ADDRESSES SINCE JUNE 18, 1917.

BREWER, J. S.,

From 4603 Westminster Pl., St. Louis, Mo.

To 812 Goodfellow Ave., St. Louis, Mo.

SHULTZ, M. E.,

From c/o Winkler Drug Co., Ft. Meyers, Fla.

To 213 First St., Ft. Meyers, Fla.

BROWN, L. A.,

From 425 Transylvania Park, Lexington, Ky.

To c/o United Drug Co., Anal. Lab., Boston, Mass.

WOYENAKA, KEIZO,

From 210 Harajuku, Sendagaya-cho, Tokio, Japan.

To 1021 Higashi-Nakano, Nakano, Toyotamagum, Tokio, Japan.

VITOUS, WALTER J.,

From Doty, Wash.

To c/o Morton Drug Co., Morton, Wash.

KIMBALL, C. O.,

From U. S. Navy, U. S. S. Cummings, New York, N. Y.

To U. S. Naval Training Station, Norfolk, Va.

BLOME, W. H.,

From 4 N. Baldwin Ave., Detroit, Mich.

To 426 Baldwin Ave., Detroit, Mich.

JACKMAN, W. F.,

From 178 Colburn Pl., Detroit, Mich.

To 206 Wehh Ave., Detroit, Mich.

WARREN, L. E.,

From 4525 N. Robey St., Chicago, Ill.

To 3833 Flad Ave., St. Louis, Mo.

WHITE, J. L.,

From 130 First St., N. W., Washington, D. C.

To Residence Unknown.

BOTE, L. E.,

From U. S. S. Wisconsin, Philadelphia, Pa.

To Hospital Corps Training School, Great Lakes, Ill.

DEAN, C. P.,

From 11 Bull St., Newport, R. I.

To Hospital Corps Training School, Great Lakes, Ill.

GINSBERG, JULIUS,

From 333 E. 16th St., New York, N. Y.

To 115 W. 68th St., c/o N. Y. College of Pharm., New York, N. Y.

DECEASED SINCE JUNE 18, 1917.

FEIL, JOSEPH,

Cleveland, Ohio.

MOSCHEL, GEO. WM.,

Spring Valley, Ill.

ISAKOVICS, A. V.,

Monticello, N. Y.

SCHLOTTERBECK, J. O.,

Ann Arbor, Mich.

WEINSTEIN, JOSEPH,

New York, N. Y.

CHANGED FROM MEMBERSHIP ONLY TO REGULAR MEMBER.

HAMILTON, H. C.,

c/o Parke, Davis Co., Detroit, Mich.

CHANGED FROM REGULAR MEMBER TO DUES ONLY

YOUNG, G. O.,

Buckhannon, W. Va.

BOOK NOTICES AND REVIEWS.

Year Book of the American Pharmaceutical Association, 1915. Volume 4. Containing the Fifty-eighth Annual Report on the Progress of Pharmacy, and the Constitution, By-Laws, and Roll of Members. Corresponding to Volume Sixty-three of the former Proceedings of the American Pharmaceutical Association. Published by the American Pharmaceutical Association, 1917.

Right in the midst of the still unsettled controversy over the continuance or discontinuance of the Year Book of the American Pharmaceutical Association, we are furnished with one of the best arguments for continuing this valuable pharmaceutical reference work, namely, the appearance of the Year Book for 1915.

After glancing carefully through the con-

tents of this volume, we are convinced that the best interests of pharmacy, as well as of the American Pharmaceutical Association demand that the publication of this work be continued.

Not long ago a well-known pharmaceutical educator declared at one of our State Association meetings that a large proportion of the queries he is called upon to answer for students and pharmacists can be answered most satisfactorily by referring to the Year Book of the A. Ph. A. Those who are familiar with past editions of the Year Book will readily bear out this statement. It is a compliment to both the Reporter on the Progress of Pharmacy and the Association itself.

The 1915 Year Book represents the same high order of work as its predecessors. The abstracts are sufficiently elaborate to convey the gist of articles appearing in the various foreign and American publications, yet they are concise.

For the busy pharmacist who has little time to more than "skip" through his journals as they come in from time to time, the Year Book is an important asset, as the Reporter on the Progress of Pharmacy acts as a "Reading Editor" for him, culling out the essentials from the non-essentials and giving him necessary references in case he wants to look up the originals.

It has been stated that the Year Book is so far behind as to detract from this feature but there were good reasons why the publication was behind and from the present outlook it will not be long before the Year Book will have "caught up" and then even this objection will have been overcome.

For the laboratory worker, teacher and scientist, the book is indispensable and has always been considered so.

In a brief review it is difficult to single out and comment on the many excellent features of this work which deserve extended comment. It will perhaps suffice to say at this point that every member of the A. Ph. A. and many non-members will find information of great value in the Year Book and even a brief perusal

of its contents will convince anyone with an open mind of its great worth.

In conclusion, credit must be given Prof. J. A. Koch, under whose tenure as Reporter on the Progress of Pharmacy much of the work in this volume was completed and to Prof. H. V. Army, the present Reporter on the Progress of Pharmacy who completed the task but who in the preface modestly assumes credit only for possible errors. It is important for the future of pharmacy that the Year Book of the American Pharmaceutical Association continue to appear.

ROBERT P. FISCHLIS.

*Practice of Pharmacy**. Remington.—Only by contrasting the past with the present, can one obtain a balanced view of the progress the professions and sciences are making, in the passing along. In this connection, this reviewer well recalls the announcement of the first issue (in 1885) of Professor Remington's great publication, *Practice of Pharmacy*, and the interest it excited in the pharmaceutical world, which so anxiously awaited this contribution to American pharmaceutical literature. With reflective thought, this writer, for contrasting purposes, before attempting his review, sought that old volume, thumb-worn and much stained by laboratory splatters. As its pages were turned, came the pleasure one experiences when, after an absence of years, one meets an old friend, and yet that publication, so complete in itself at the time of its first appearance in one volume, has been five times revised, each revision being so amplified as to present at the time of issue, the acme of pharmaceutical art. Notwithstanding this, the author, Professor Joseph P. Remington, in the enthusiasm of his profession, was ever on the lookout for opportunities for revision betterments. Searching current literature of the passing day, active in scientific and society problems, ever eager to catch what was best in the passing along, he thus made each successive edition the last word in pharmaceutical advancement. Needless to say, Volume I of the fifth revision,

**The Practice of Pharmacy*. Vol. I, Parts I and II. A Treatise on the Modes of Making and Dispensing Official, Unofficial, and Extemporaneous Preparations, and Descriptions of Medicinal Substances, their Properties, Uses, and Doses. Intended as a Hand-Book for Pharmacists and Physicians, and a Text-Book for Students. Sixth Edition. By Joseph P. Remington, Ph.M., Phar.D., F.C.S., Chairman of the Committee of Revision of the Pharmacopoeia of the United States of America; Dean Professor of Theory and Practice of Pharmacy, and Director of the Pharmaceutical Laboratory, in the Philadelphia College of Pharmacy; Pharmaceutical Editor of the United States Dispensatory; Honorary Member of the Pharmaceutical Society of Great Britain, etc. Assisted by E. Fullerton Cook, P.D., Associate Professor of Operative Pharmacy and Instructor in Commercial Pharmacy in the Philadelphia College of Pharmacy; Member of the Committee of Revision of the National Formulary. With over Eight Hundred Illustrations. Published by the J. B. Lippincott Company, Philadelphia. Prices, Volumes I and II, regular cloth binding, each, \$4.50; complete in one volume, bound in buckram, \$8.00.

now before us (*Sixth Edition, 1917*), far excels all preceding editions.

Our part is not, however, to linger over Professor Remington's past contributions to the cause of pharmacy (this masterpiece of one friend of old), but to review (the work that is now appearing in two volumes), Volume I of the 1917 edition. In this we find a successful effort both to amplify past subjects, where needed, and to condense those not now important. The first object is accomplished by wisely selected additions and explanations of advances made in pharmaceutical processes, pharmaceutical compounds and pharmaceutical problems, fortified liberally with unofficial formulae; the second by the introduction of condensed tables and classified arrangements, showing at a glance formulas that would otherwise require pages of detail.

Pharmacists will be pleased to find that preparations dismissed from past Pharmacopoeias and yet much prescribed by physicians, are not by Professor Remington considered obsolete, but that, with discriminative selection, he has given proper recognition to such as are important. This is a very essential feature of a work on general pharmacy, because the dismissing of a preparation from the Pharmacopoeia by action of a Committee, neither dismisses it from therapeutic use, nor absolves the pharmacist from its recognition and preparation. Indeed, many preparations dropped from Pharmacopoeias of times gone by (as well as many drugs reported upon adversely by authoritative vote), might well be reintroduced if (as some of us believe), the object of a Pharmacopoeia is to give to the medical and pharmaceutical professions standards that should be at their command, where the object is the preparing of legitimate prescriptions, or a knowledge of the ingredients of a compound that is being prescribed. Professor Remington's revised publication thus especially appeals, as it overcomes many shortcomings in this direction, supplying the needful formulas and processes. We find also in this volume, formulas for making numerous Fluidextracts and other preparations, such as emulsions, that have never been awarded a position in any Pharmacopoeia, but which are ever in more or less demand, through physicians' prescriptions.

Each successive edition of "*Remington's Pharmacy*," as is known to all practical pharmacists, has been prolific in illustrations. This is a much valued feature, for few will deny that illustrations are all-important, the "eye-touch"

being, with many persons, even more effective as an instructor, than the ear. Indeed, what word description could intelligently represent such figures as 327, 327a, and 327b (pages 242-243), illustrative of the "international disk filter," the "centrifugal filter," and the "centrifugal filter, interior?" The present volume has been much enriched in this direction by the art of Professor Remington's son, Mr. J. Percy Remington, B.S., P.D., whose outline drawings and cuts, a dozen at least, add a feature that will be much appreciated.

Recognizing that the majority of the physicians of America still use (and will long continue to use), quantity expressions of the past, to the neglect of the metric system, the present work gives, in each official formula, parallel amounts, the metric system being expressed in black-face type, the apothecary's system, formerly official (designated as "old form"), being printed in light-face type. Every possessor of the work is thus fortified to prepare these compounds, without resorting to tedious calculations, with connected liability to error. Let us present verbatim from page 566 one such compound, official in the Eighth Edition of the Pharmacopoeia, and much used at the present time:

FLUIDEXTRACTUM APOCYN. N. F. Fluidextract of Apocynum
[Fidest. Apocyn.]

Apocynum, in No. 30 powder	Metric 1000 Gm.	Old form 50 ss av
Glycerin.		
Alcohol.		
Water, each, a sufficient quantity,		
To make	1000 mls	3 pints

Prepare a Fluidextract by Type Process B (see page 521), using a mixture of 100 mls [old form 4 fl. oz. 384 minims] of glycerin, 600 mls [old form 28 fl. oz. 384 minims] of alcohol, and 300 mls [old form 14 fl. oz. 193 minims] of water as Menstruum I, and a mixture of 3 volumes of alcohol and 2 volumes of water as Menstruum II.

The term "cubic centimeter (Cc.)," so long in use in chemical and pharmacopoeial practice (officially introduced 1890), has been replaced throughout by the abbreviation "*ml*" or "*ml*" (a contraction of the term *milliliter*), this being adopted and authorized by the present (*Ninth*) edition of the *United States Pharmacopoeia*, the *National Formulary*, and the *United States Bureau of Standards*. These terms, however, are but symbolic expressions, without appreciable differences, the *ml* being practically equivalent to the cubic centimeter, the variation being about 1½ minims to the gallon.

One feature of the present edition is a classified development of past arrangements of formulae. See, for example, the tables that include the Syrups (pages 321-325), of the Pharmacopoeia (*Ninth Edition*), the *National Formulary*, and the unofficial syrups, such as *Cascara Aromaticus*, of the *British Pharmacopoeia*.

Where possible, such a class is arranged in the order of "relative strengths." This is important, because, for example, among the Pharmacopoeial Tinctures, the student can at once catch the fact that *Tinctura Opii Camphorata* is of low relative strength, representing but four-tenths of one percent (0.4) of opium, and that, progressively increasing, other tinctures fall in their proper places, till the list closes with *Limonis Corticis*, which represents fifty percent fresh lemon peel. The same arrangement applies to the preparations of the National Formulary, and to the unofficial preparations. Other classes, as Fluidextracts, are classed according to their method of preparation, or their alcoholic strength, while such substances as "Extracts, Pilulae, or Powdered Extracts," are grouped according to the menstruum strength used in their manufacture.

Pages 215 to 219, inclusive, are devoted to the solubility of official substances in water and in alcohol, a feature of immense importance to everyone concerned in medicinal pharmacy and chemistry, which so largely dominates pharmaceutical "compounds," and which, under the headings, "*Colloidal Solutions*" (see pages 220-221), and "*Dialysis*" (pages 266-268), are so aptly described by the author. In this reviewer's opinion, one feature of what is now known as "*Physical Chemistry*" (which includes "*Colloidal Chemistry*") is now opening a door, too long closed, that in the field of legitimate science will give ever-widening opportunities to one concerned in the art of pharmacy.

A comprehensive view of the scope of Volume I of this *Practice of Pharmacy* is afforded by the chapters heading its two great subdivisions: Part I (*Theoretical and Practical Pharmacy*), devoted to theory, methods, apparatus, etc., contains twenty chapters beginning with *Metrology*, and closing with *Percolation*. Part II (*Official Pharmacy*), devoted chiefly to manipulative processes and desirable unofficial products, contains eleven chapters, beginning with "*Aqueous Solutions*," and closing with "*Solid Official Preparations Made without Percolation*."

But enough has been said concerning the principal features of a work that soon will be in the hands of every progressive American pharmacist, physician and student concerned in either pharmacy or medicine. To attempt to enter into discursive details would be to write a volume. Sufficient is it now to an-

nounce that we have here the culmination of the pharmaceutical research of its author, Professor Joseph P. Remington, known world wide, for decades, as a pharmaceutical authority, twice Chairman of the Committee of Revision of the Pharmacopoeia of the United States, ably assisted by his collaborer, Professor E. Fullerton Cook, and by B. A. Heims, who is credited in the Preface as having "given valued assistance in every part of the revision."

From some special viewpoint, an enthusiast might probably desire to see a certain section amplified, or conversely, another section shortened. Perhaps a different view than that presented, might even be held concerning some of the theoretical phases that, presenting two viewpoints, admit of discussion. In every work touching science such opportunities are thus afforded a reviewer to advance his personal opinions on questions that, had the author recorded the opposite of what is presented, would not have prevented adverse criticism. The present reviewer does not propose to indulge such opportunities as these, if any there be, for fault finding, in the direction of this admirable publication.

Briefly, in this reviewer's opinion, Volume I of Remington's "*Practice of Pharmacy*" carries all the features of the past publications embodied in its scope; each section is made complete, where the science and the art of pharmacy has progressed sufficiently to warrant additions; obsolete formulas and processes have been revised or excluded; desirable tables and classified sections have been added; chemical nomenclature and pharmaceutical theories have been brought to date; formulas and processes have, by permission, been included of desirable portions of the text of the U. S. Pharmacopoeia and the National Formulary, etc., etc. The book is one that should undoubtedly be in the hands of every active pharmacist and student, as well as of every progressive physician.

JOHN URI LLOYD.

WHITE'S VEST POCKET SUNDÆ FORMULARY. A collection of original and carefully selected standard formulas for the preparation of plain and fancy sundæes and the manufacture of dressings and toppings, arranged in alphabetical order so that they may be instantly accessible. Over 1,500 formulas. By E. F. White. 200 pages, 3 × 6 inches. The Spatula Publishing Company, Boston. Price, \$1.00.

JOSEPH LYON LEMBERGER

LEBANON, PA.

Member of the American Pharmaceutical Association since 1858

President of the American Pharmaceutical Association 1905-'06

Mr. Lemberger celebrates the sixtieth anniversary of his membership in the American Pharmaceutical Association this year, and is, in years of membership, the Senior member of that body.—EDITOR.



J. L. LEMBERGER

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. VI

SEPTEMBER, 1917

NO. 9

JOSEPH LYON LEMBERGER.

Joseph L. Lemberger, Ph.G., Ph.M., and Phar.D., also ex-President of the American Pharmaceutical Association is one of the old guard, having been elected a member of the Association in 1858. His loyalty and activity for these many years is tantamount to a promise of interest to the end of his life's journey.

He was born in Meyerstown, Pa., December 7, 1834, but when he was five years old, his father purchased a woolen fabric mill and farm, fourteen miles north of Lebanon, and the family moved to it. His father, Lyon Lemberger, was born in Presburg, Hungary, in 1795. He was wounded at the Battle of Austerlitz; when he had recovered and was discharged from the hospital, he made his way to Amsterdam and embarked for America, and was landed at Philadelphia in April 1817. He soon became a naturalized citizen of the United States and was a highly esteemed, successful business man, who reached the unusual age of 94 years.

Joseph L. Lemberger is a veteran of the Civil War, and has held many responsible positions. He has been the Treasurer of the Boards of Commissioners for Foreign Missions of the Reformed Church for over 25 years, and is the Chairman of the Executive Committee of the Associated Charities of Lebanon and of the Young Men's Christian Association of Lebanon. He is also a member of the Board of Managers for the Pennsylvania Chautauqua and Summer School for Teachers; and has continuously been a member of the Board of Trustees and the Secretary thereto, for the State Asylum for the Chronic Insane of Pennsylvania, since 1891. At the last annual meeting of the American Pharmaceutical Association, he contributed a valuable paper to the Historical Section, which was published in the August issue of the JOURNAL of the Association, p. 717, and is a pen picture of the old system of apprenticeship in entering pharmacy.

The writer made the acquaintance of the subject of this sketch at the annual meeting held in Baltimore in 1863. Since that time we have been close friends; nothing has disturbed our faith and confidence in each other and I am confident that other members have had a similar experience with him.

He is a man small in stature with a big soul. During his long membership he has contributed his activity, best thoughts and experience. His literary contributions are worthy of perusal. The writer has never known him to intentionally misrepresent facts.

Joseph L. Lemberger, James T. Shinn and the writer were frequently called—the Triplets. We were born into this world in the same year and during the long period of our friendship there never was a misunderstanding of a serious nature, or anything that lessened our confidence and mutual respect for each other.

In conclusion I would suggest that Joseph Lemberger as a member and an ex-President of the American Pharmaceutical Association is a worthy example for those who have elected pharmacy as their life work.

JOHN F. HANCOCK.

EDITORIAL

E. G. EBERLE, Editor

253 Bourse Bldg., PHILADELPHIA

THE INDIANAPOLIS MEETING.

THE results of the Sixty-Fifth Annual Meeting of the American Pharmaceutical Association will mark an epoch in the history of pharmacy, and the drug business in general, if the wise plans and suggestions of President Frederick J. Wulling are carried into effect. Those who have contended that the American Pharmaceutical Association lacks in the progressive spirit and initiative must now disabuse their minds of such thoughts and be convinced that it is up to them coöperatively to take advantage of the great opportunity so well outlined in the address of the President of the American Pharmaceutical Association.

There should be no contention over the credit for the proposed federation of pharmaceutical organizations—"there is glory enough for all." The thing is to bring about the consummation by appointing efficient committees, without unnecessary postponement, constituted by members who are qualified for the important task. We have examples of other organizations for the undertaking, differing perhaps in many respects, because of different activities and on account of the complexity of the drug business, but certainly similar in the coöperative plans outlined of working and counseling together. Feasible, yes, easily so; if the pharmacists—retail, wholesale, manufacturing, etc.—really desire to further the project instead of withholding their support for one reason or another, there must be confidence, there must be genuine coöperation.

The sum of money spoken of and required for proper and efficient evolution of the proposal seems large, but everything is relative; the individual with most moderate income can surely devise means for saving the small amount of the indicated assessment during a year, if not, then in two years, when it must be evident that the successful culmination will benefit him, not only in carrying into effect measures that are now impossible because of insufficient support and will continue to come up as in the past. But perhaps there is not so much uncertainty with the smaller contributions as the larger, can we not hope that for one time, this time, all are going to work together for the one great object, and show that pharmacists are capable of big things, that the branches of the drug trade and profession have herein a common cause. The evidence of the possibility is in the successful work accomplished by the Drug Trade Conference.

The central theme of the address, which is printed in this issue, is the need of federation of all pharmaceutical organizations. It should be given careful study by every pharmacist; the scheme is both practical and practicable.

Without dwelling further upon the address which will doubtless prove of valuable interest to the reader, and going into a discussion of recommendations

that also formed part of other presentations, brief references are made to further proceedings of the convention. The recognition of the pharmacist and pharmacy by the Government had an important place not only in President Wulling's address but in some of the papers of nearly all Sections; also in the Transactions of the American Conference of Pharmaceutical Faculties and the National Association of Boards of Pharmacy. "Glory enough for all" was emphasized in a meeting of representatives of the National Association of Retail Druggists and of the American Pharmaceutical Association. The consensus of opinion was that pharmacists should not only be given recognition by the establishment of a pharmaceutical corps in the U. S. Army, but that representation should be had on the Council of National Defense. The thing is not how much credit should be accorded to one body or another, but how much can all, working together, do for humanity, for pharmacy; that is the thought; no one cares now about the political affiliation of our President—we are all fellow-citizens; his cause is ours; so also, all of us are pharmacists; the accomplishments, the results count, and our purposes will only secure applaud if we win. Let us do it!

Higher standards for pharmacy was the keynote in both the American Conference of Pharmaceutical Faculties and the National Association of Boards of Pharmacy. Graduation from a 4-year high school course was made a requirement for entrance to colleges of pharmacy from 1923. Further comment on these meetings must be deferred to a later issue of the JOURNAL; the address of President R. A. Lyman included an analysis of the status of pharmacy and a forceful presentation of the need of advancing its professional standard. The meetings were well attended, continuously active during the hours assigned by the program, and the entertainments were interesting and enjoyed by all. A feature of the latter was the play, "A Tale of Two Drug Stores," by local pharmaceutical talent and staged under the direction of Mr. Harry Porter, at the German House. The first Act, designated "Dose," presented the old apothecary shop, and the next, a "modern" drug store, then, as a third number, followed refreshments.

The accommodations furnished for holding the sessions were good and afforded the opportunity of transacting business without loss of time. Mention should be made that the value of a number of addresses and papers was enhanced by the projectoscopes that were supplied and ready for the illustrations and demonstrations. In that connection it may also be said that a number of these illustrated lectures emphasized the commercial value of professional pharmacy.

A gratifying act that will doubtless prove of great value to pharmacy, and we may say to medicine and even more extensive, was the initiation of a fund for pharmaceutical research, known as the American Pharmaceutical Association Research Fund, by the Association. The nucleus is created from the estimated net profits derived from the National Formulary, and now amounts to \$7,000.00.

This will be added to as profits from that source become available. So it will be discerned that pharmacy will receive further benefits from the National Formulary; it is another evidence of the altruism of the Association, and it is to be hoped that persons, firms and corporations, actuated by the same spirit, will contribute liberally to this fund, so as to bring the amount up to that contemplated, namely, \$100,000. Pharmaceutical research should be promoted by the American Pharmaceutical Association and the move is timely, commendable and important.

The historical exhibit attracted considerable attention and proved that this can be made an interesting feature of every convention.

The Sixty-fifth Annual Meeting of the American Pharmaceutical Association was a successful one.

E. G. E.

THE VALUE OF CLINICAL EVIDENCE.

THE therapeutic value of a new substance may be judged from a knowledge of its composition and its chemical and physical properties, from a study of its effects on healthy or diseased animals, and by trying it on the sick.

Were magnesium salicylate a new drug, its action might be predicted from the known action of the salicylic radical, the magnesium ion, and the solubility and ionization constant of the salt. Often this plan fails entirely, and a new compound is found to have therapeutic properties not anticipated by a knowledge of its constitution and properties.

Ordinarily a very good estimate of the therapeutic action of a new compound may be made by studying its effects on animals. Many instances are known, however, in which a drug has an action on man which is quite different from that on animals, particularly if these differ widely from man in their structure and organization. Furthermore, the action of a drug on a healthy animal may be different from that on a diseased animal, and it may be that animals are not subject to the particular disease which the drug is supposed to influence.

The only certain method, and the one always employed in the end, is to test the value of a drug on the human organism affected with the ailment which the drug is supposed to combat. An almost fatal objection to the establishment of the therapeutic value of a drug by means of this "clinical trial" method is that it is impossible to tell what would have happened had the drug not been given to the patient. In other words, when a patient recovers after the administration of a drug, we do not know whether or not the drug had anything to do with the recovery—probably the patient would have recovered without it.

At the recent meeting of the American Medical Association, Torald Sollmann, M.D., professor of pharmacology at Western Reserve University, forcibly illustrated the many pitfalls which beset the establishment of the therapeutic virtues

of a drug by the "clinical" method (*Jour. Am. Med. Association*, July 21, 1917, p. 198).

Dr. Sollman thus refers to the clinical evidence which promoters of new remedies submit to the Council on Pharmacy and Chemistry (of which he is a member):

"When the Council demands evidence of the usefulness of a remedy, the manufacturers generally respond with every sign of enthusiasm. They may have ready a series of articles already published, or they instruct their agents to bring in letters from physicians. The last method seems to meet the most cordial response, judging from the deluge of letters and opinions that floods the Council. The quality of the published papers is a fair reflection of the deficiencies of what is still the common type of clinical evidence. A little thought suffices to show that the greater part cannot be taken as serious evidence at all. Some of the data are merely impressions—usually the latest impressions of an impressionable enthusiast."

The author outlines two procedures whereby a proper allowance of the natural course of the disease may be made: the "statistical" method and the "blind" test.

In the statistical method one set of patients receives the medicine under trial, while another set, otherwise managed in the same way, does not receive the medicine. This method is of value only when a large number of similar cases are available, and even then it cannot take into account the individuality of each patient.

In the "blind" test the physician attempts to distinguish unknown preparations by their effects. One series of patients is given the preparation under examination, while another series receives a preparation which is inactive or one with which the new remedy is to be compared, but in such a way that the physician does not know which patients receive the drug under trial and which the inactive one or the one used for comparison. The identity of the preparation is disclosed to him only after he has recorded his findings for each patient. This method is the only one which avoids the pitfalls of clinical observation and makes the results independent of the bias of the observer and the patient.

It is opportune to recall at this time that when the "blind" test was used, the effects of a proprietary solution of mercuric iodide in oil could not be distinguished from one made after the formula of H. A. B. Dunning (*PROCEEDINGS A. PH. A.*, 1910, p. 1123) despite the claims of superiority which were made for the former. Similar results have been obtained when the "blind" test was applied with synthetics, proving in certain instances that may be cited, that they are therapeutically as active and efficient as the higher priced natural products which they may displace, with the sanction of the attending physician, without any disadvantage whatever, should there be a marked difference in price, or for any other reason. A realization of the unreliability of many of the clinical trials serves to

make it clear why so many new proprietaries have enjoyed so short a period of favor, despite the remarkable "cures" which are at first reported for them.

This is a subject of importance, not only now, but in the promotion of a more useful materia medica, more serviceable for the American practitioner. Such a test removes prejudice and should develop rational therapeutics, the science of medicine and of pharmacy, free the practice of medicine and of pharmacy from undesirable exploitation.

E. G. E.

THE SHORTAGE ON SYNTHETIC DRUGS.

TO facilitate the manufacture of synthetic drugs in this country and thus to relieve the shortage which has resulted from the war, the National Research Council has established a committee on synthetic drugs.

Professor Julius Stieglitz, head of the Department of Chemistry of the University of Chicago, has accepted the chairmanship of this committee. As his associates, Professor Stieglitz has selected Professor M. Gomberg, of the University of Michigan, Dr. Roger Adams, of the University of Illinois, and Dr. W. A. Puckner, Secretary of the Council of Pharmacy and Chemistry.

A bill before Congress—the Adamson Bill—will make provisions for licensing manufacturers to prepare drugs now protected by patents controlled by enemy countries. The administration of the provisions of the bill will be in charge of the Federal Trade Commission and the new committee of the National Research Council is being organized with the special object of being prepared to put at the disposal of this Commission such scientific coöperation as the Commission may desire to ask for. To this end, the efforts of the committee will extend in two main directions. In the first place, to assemble reliable information as to which synthetic drugs are really hard to obtain or, if obtainable, are sold at an exorbitant price. In the second place, to organize research work, especially in universities, in part to assist manufacturers in working out the problems of the production, on a large scale, of synthetic drugs of a high degree of purity without great delay and, in part, to have preparations such as reagents which would not attract manufacturers, made in university laboratories, if necessary under licenses as is now being done in England.

In order that the committee may concern itself with those synthetic drugs, the manufacture of which is most urgent, it is requested that pharmacists send to W. A. Puckner, 535 North Dearborn Street, Chicago, a list of those important synthetics which they have found it impossible or difficult to obtain, or for which an exorbitant price is charged.

Manufacturers interested in the production of a given product are invited to communicate with J. Stieglitz, University of Chicago, Chicago.

E. G. E.

SIXTY-FIFTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

INDIANAPOLIS, IND., AUGUST 28 TO SEPTEMBER 1, 1917.

(Partial Report of the First General Session in Abstract, and the President's Address.)

The First General Session of the Sixty-fifth Annual Meeting of the American Pharmaceutical Association was called to order at 8.20 P.M., August 28th, in the Assembly Room of the Claypool Hotel, Indianapolis, by the President, Frederick J. Wulling, of Minneapolis, Minn.

Prof. John Uri Lloyd, of Cincinnati, spoke the words of encouragement for the convention.

President Wulling welcomed the delegates from the various departments of the U. S. Government, the national, state and local pharmaceutical, and related associations; he extended to them the privileges of the floor during the convention, and expressed the hope that the delegates would participate in the proceedings and give the members an opportunity to hear from them officially at such a time that would best suit their convenience.

The next order of business was the reading of the President's address. Lucius E. Sayre, Second Vice-President of the Association, presided. (The address of President Wulling follows on next page.)

F. E. Stewart moved that the able and suggestive address of President Wulling be referred to a committee to be appointed by the chair. Chairman L. E. Sayre appointed the following members: H. V. Army, Julius A. Koch, C. E. Caspari, R. A. Lyman, Charles H. LaWall.

President Wulling then resumed the chair and called for an abstract of the minutes of the Council, read by Secretary J. W. England. The minutes were approved. (They will hereafter be printed under Council Business.)

General Secretary William B. Day notified the chairman of the various Association Committees to have their reports ready for presentation at the next General Session.

The roll of States, Territories and Provinces was called, for the purpose of selecting a Committee on Nominations.

Greetings from national and state associations and individuals were read. (They will be printed in a succeeding number of the JOURNAL.)

John C. Wallace feelingly referred to the words from Prof. Joseph P. Remington and moved that a message of condolence and cheer be sent to him. Carried unanimously.

The Nominating Committee was announced, and President Wulling named the following five members-at-large: Caswell A. Mayo, H. M. Whelpley, L. E. Sayre, F. E. Stewart and Edward Spease.

The following Committee on Resolutions was named, the first five by the Council, and the latter by the Association: W. F. Hankey, C. H. Packard, Jacob Diner, Louis Saalbach, A. H. Clark; J. A. Handy, Jeannot Hostmann, C. H. Huhn, W. L. Scoville and W. P. Porterfield.

The First General Session adjourned at 10.25 P.M.

(The names of the nominees will be found on Council Letter page.)

ADDRESS OF THE PRESIDENT OF THE AMERICAN
PHARMACEUTICAL ASSOCIATION.

FREDERICK J. WULLING.

FELLOW MEMBERS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION:

Introduction.—It is our great privilege to enter upon the sixty-fifth meeting of our Association and to again exchange fraternal greetings and felicitations and to renew mutual assurances of good will and to re-affirm loyalty to the aims and purposes of our beloved Association and our chosen calling.

This beautiful inland city of Indianapolis is our host a third time in thirty-eight years, for the Association enjoyed this city's hospitality in 1879 and again in 1906.

An Association, like a calling, is a trust in the keeping of a current generation who received it from the previous one and hands it down to the next. Each generation administers upon the trust according to its abilities determined largely by the ideals and aims of its leaders. In that respect our Association has been singularly fortunate and successful. Throughout its history it has included in its membership those pharmacists who have left their stamp of authority and leadership upon the profession and upon their time. This Association has always represented the highest in ethical pharmaceutical



FREDERICK J. WULLING.

achievement and accomplishment. It has ever been youthful in its vigor, virility and courage as it always has been mature in judgment, counsel and attainment. It never grows old because it annually renews itself through the agency of these meetings when, through mutual stimulation to renewed initiative, endeavor and service, the members engender the enthusiasm, enterprise and determination so necessary for the resultful continuation of the work and purpose of the Association.

It should ever be kept in mind that the Association is not only an agency for the doing of a very definite and practical work, but that it is also an intangible influence; a positive, affirmative influence for all that is best and highest and altruistic and unselfish and self-sacrificing in pharmacy. While the Association does a vast amount of direct work for the elevation of pharmacy, its indirect influence upon the body-pharmaceutic, growing out of what it stands for, is quantitatively, though indirectly probably, greater. The American Pharmaceutical Association is the great exemplar of American Pharmacy. Its chief aim is and always has been through its work and influence to enable all pharmaceutical practitioners as well as all engaged in any other division of the calling to render within their scope of activity a maximum of efficient service to mankind. The nature of the service that pharmacy renders places it next in importance to only one other service, namely, medical service, and if pharmacy is regarded as a medical specialty, as it should be, the necessity and therefore importance of its service to

society may be regarded as second to none. So noble a purpose has found expression and realization in the past activities of our Association and its future activities must not and will not deviate from this high purpose, but if possible, must exceed it.

If what I have said is true, then we pharmacists of the present generation and holders of the trust I have suggested are most responsible custodians upon whom the burdens and responsibilities of administration shall not rest lightly.

Administration.—To administrative matters, therefore, I desire first to direct your attention and enlist your constructive activity.

We are living in an age of big things; an age in which many things are done in a big way. Coöperation through organization is the means of doing things in a large way. The big and coöperative way of administration is inclusive and has stood the test of a long enough period to prove it to be successful. It has done for the individual and therefore for social groups and for society at large what the individual never did and never can do. The individual is the basic unit in our organizations, government and civilization. Our government was instituted and organized to protect and help the individual in the exercise of his inherent right to the pursuit of happiness, to life, liberty, freedom and opportunity. Unless the individual is the final beneficiary of all or any of the activities of civilization, the latter is a failure. These statements will not be challenged in a country such as ours which is built upon the principle that the government is for the people, of which the individual is the unit, and not upon the imperialistic idea that the people are created for the government.

The individual being the ultimate beneficiary I have described, he is bound by the very definite responsibilities and duties of loyalty and fealty and service to his government, to his family, to his calling and to his fellows. The full duties of citizenship and efficient service are upon every individual who is a *compos mentis*. *Among the first and most insistent duties of the individual is coöperation with his fellows, to the end that all individuals and hence all social groups constituting society and therefore society itself shall enjoy the full privileges and blessings of an acceleratingly ideal civilization. In so far as the individual fails in the affirmative exercise of this duty, society and civilization will be short of perfection. It is not my purpose to discuss the individual's duties to his government and to society except in this general way of illustrating his narrower but none the less insistent duties to his calling.*

Pharmacists constitute a social group; a group of no mean importance in the social fabric. I like to speak of this social group as the *body-pharmaceutic*, because that is an inclusive term embracing all those who are in any way identified with pharmacy either as educators, practitioners, manufacturers, distributors, etc. All are definitely related to each other. *This relationship is not sufficiently recognized and is not adequately represented and expressed in pharmaceutical organization. In the past we have failed to recognize sufficiently the interrelation and interdependence of the divisions of the body-pharmaceutic and hence each division has organized itself for the furtherance of its own domestic interests, thus emphasizing too greatly lines of division which seem more apparent than they really are. It was and is proper and beneficial that these divisions be represented by separate organizations, but the desirability and necessity of organizational bonds to unite them into a larger whole has thus far been overlooked. Each of our pharmaceutical associations regards itself as a complete whole when in reality each is only a part or division of the whole. When our original thirteen colonies declared their independence, each regarded itself as a sovereign state. The wiser of the fathers of that time soon realized how futile and foolish that idea was. Each state was weaker and more defenseless after its independence than it was before. Even though the thirteen states might, as separate sovereignties have lived on in peace with each other, none would have been strong enough to resist a respectable enemy. Only in pooling their destinies and in a political union could they secure and maintain their existence. But for*

their union there would probably be no American nation to-day. What the union has accomplished no single state could have achieved. I venture to present to you this example as one meriting the emulation of our several pharmaceutical organizations and *I most earnestly recommend for your serious consideration the advantages of an affiliation of all national, state, county and local associations into a union or federation*. The advantages of such a union are so obvious and apparent that I think I need not take the space and time to discuss them.

How best to bring about such a federation should be left to many heads and wiser ones than mine, but possibly you will allow me to present to you an outline, the result of my thought and reflection upon the matter, as a possible starting point toward the consummation of the idea of a federation.

I would organize the entire body-pharmaceutic into one great whole and divide this into a number of major divisions and each of these into minor subdivisions in such a way that every pharmaceutical interest, the greatest and the humblest, would be included and safeguarded. The great whole I would call the American Pharmaceutical Association and the major divisions as follows:

1. The Division of Practice.

<ol style="list-style-type: none"> 1. Professional Practice 2. Commercial Practice 	{	Now represented by this Association, the National Association of Retail Druggists, the National Association of Drug Clerks, etc.
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- II. The Division of Wholesaling, now represented by the National Wholesale Druggists' Association and similar bodies.
- III. The Division of Manufacturing, now represented by the National Association of Manufacturers of Medicinal Products, American Association of Pharmaceutical Chemists, and similar bodies.
- IV. The Division of Education, now represented by the American Conference of Pharmaceutical Faculties.
- V. The Division of Regulation of Practice and Legislation, now represented by the National Association of Boards of Pharmacy and possibly the Committee of Revision of the U. S. Pharmacopoeia.
- VI. The Division of Associations, now represented by the several state, county and local organizations.

Each division could maintain its own independence, elect its own officers with a chairman in place of present presidents and administer upon its own domestic affairs, having regard, however, of its responsibility to the Association, which latter ought to have its separate and paramount set of officers to be elected by the votes of the members of all of the divisions or by their electors and to be governed by an administrative council to be equitably representative of each division. Membership in the division ought to carry membership in the Association. Membership could consist of three kinds: 1. Individual. 2. Firm or Corporate. 3. Associational.

We already have the nucleus of a federation in the Drug Trade Conference. The Conference, however, is not sufficiently representative nor does it possess the power and authority that would be inherent in and issue out of the proposed federation.

This proposed organization of the entire body-pharmaceutic should have for adequate administration a building and able officers, including at least one who would give his entire time in the capacity of general manager. Such a building should be sufficiently large and spacious and adequately equipped and manned to represent in a fitting manner each and every one of the varied interests. It should be located as near the center of population of this country as possible, preferably in a large city where all needed facilities would be at hand. To provide

such headquarters would, of course, cost a respectable sum of money, but the cost would represent a comparatively small percentage of the capital now invested in all pharmaceutical activities. The maintenance of such a building and administration would also cost a fairly large sum. The maintenance ought to be met by the income from a sufficient endowment. The kind of building and equipment I have in mind would cost half a million dollars. Another half million endowment would furnish an income annually of \$25,000. This one million would be a small percentage of the capital now invested in all departments of pharmacy in this country and could, I believe, with proper machinery, be raised by assessment. I have not succeeded in finding statistics showing the total capital invested in all pharmaceutical activities. Friends have estimated the total sum to be somewhere between \$500,000,000 and \$1,250,000,000. There are approximately 50,000 drug stores in the country which at the low average valuation of \$5,000 each would total \$250,000,000. The manufacturing, wholesaling, distributing and other interests surely are capitalized by at least an equal sum. The very conservative and low estimate of \$500,000,000 would yield one million dollars by an assessment of only one-fifth of one percent. A drug store worth \$5,000 would contribute \$10.00; a manufacturing concern worth \$100,000 would contribute \$200.00 and others in the same proportion. Would this not be the very best investment that all concerned could possibly make? In this or a similar manner the business of organized American pharmacy could be established and when once a going concern, under right management, might be made to pay dividends in time to gradually make the return of the assessments possible. But this should not be counted upon or expected.

I feel certain that many who are active in pharmacy, but who have no capital invested would be willing to contribute generously to such an undertaking on the basis of their earnings. I have no money capital invested in pharmacy, but I would be willing to contribute toward the proposed million a proportionate share based upon a sum representing approximately the value of my life in money-producing power figured on my annual income at a reasonable rate of interest.

If this idea of raising a million dollars as an investment by American pharmacy for the furtherance of its now neglected interests seems staggering to some, I ask you to withhold your judgment until you will have studied the suggestion in all its phases and possibilities. We pharmacists have in the past been thinking in entirely too low and modest terms. As a social group we are prosperous and the realization of this idea is, therefore, entirely feasible and possible. *Willingness and the determination to succeed are the only essentials.* I maintain that pharmacy has arrived at a point where a step of this kind becomes a solemn duty and I, therefore, urgently recommend:

That this Association, through a strong and suitable committee, invite all other pharmaceutical associations, national, state and local, to coöperate in the establishment of the proposed federation and concurrently in the raising of a million dollars for the purposes I have outlined.

The bringing about of the proposed federation is paramount to all else that the Association can enter into and eclipses in importance and insistence everything else now before American pharmacy for administration and adjustment. Many problems now unsolved and much neglected or overlooked, yet nevertheless necessary and imperative work, could be easily solved and accomplished. If you will give this idea unbiased and thoughtful and sympathetic study and consideration, I am confident you will not regard it as visionary or impractical. American pharmacy must rise to the necessity of the problems before it or suffer further disintegration and a humility among sister professions that would be unbearable.

Every pharmacist's attitude toward this idea will be measured in a degree by his willingness or unwillingness to contribute his small financial share to its consummation, but, in addition to his financial, his moral and intellectual support are necessary.

American pharmacy needs a more adequate and representative machinery for the doing of very necessary and definite things all too long neglected. I have indicated the nature of this machinery and what its approximate cost would be. The decision lies with American pharmacists. The decision should not be too hastily made. It would be well if this meeting could unanimously, or by a good majority, decide to enter upon the preliminaries toward the realization of *the idea as a whole; that is, the federation, the building, endowments and administrative machinery all together*. Nothing less than all of these will do. Their relations and importance, as I see the matter, are mutual, reciprocal and concurrent. The whole can be achieved as easily as any part. The longer we wait the more difficult the task will become. I feel that if we longer neglect this step, we will fail in our duties to ourselves and to the coming generation of pharmacists in the administration of the trust now in our hands. Unless we undertake this work so clearly and definitely before us, its accomplishment in the future will become increasingly difficult. I believe I am not too emphatic when I say the matter is one of imperative duty and conscience. Brains and executive ability of a high order will be necessary to create and maintain this larger association or federation, but pharmacy affords or can find and employ every necessary talent. (While I am not modest enough to disclaim any ability along these lines, I yet want to go on record as irrevocably declaring myself unavailable except possibly in a minor advisory capacity.) This talent should be representative of every existing association and after a sufficient study should formulate and present a *modus operandi* with the earliest possible beginning and a correspondingly early completion of the work of federation as a basic purpose. I will, therefore, not weary you with any suggestions along this line but proceed to other matters.

The Council.—Until the federation is realized the Association can be conducted as in the past without detriment. Because of recent criticisms, I have given some consideration to the question of improvement in the management of Association affairs and have come to the conclusion that I cannot offer substantial suggestions for immediate improvement, except such as I indicate elsewhere in this address and such as would grow out of the proposed federation. Indeed the more I studied the present situation and the history of the Association, the more my admiration has grown for the wisdom and foresight of those responsible for the Association, its organization, maintenance and management. My study and investigation were directed especially by the question of lessening the power of the Council to which some criticism has been directed of late. I feel the Council ought not to have less power and authority. The Council as at present constituted is a necessary department of the Association's organization for competent and expeditious administration of its affairs. Those who will give some study to the matter will realize, as I do, that the Council has been an evolution growing out of the needs and experiences of many years of Association growth and activity. Possibly a wider and more sympathetic study of and a more wholehearted coöperation in the work and problems of the Council on part of the membership at large would have facilitated and strengthened the work of the Council. Those constituting the Council are not responsible for its organization and, so far as I have been able to learn, have faithfully and efficiently done their duty. The officers of an association derive all their powers from the consent of the members expressed in the constitution and by-laws. They have no other power and should not have, but they should be supported heartily and generously in the exercise of their powers and functions. While suggestion and constructive criticism should and I believe always is welcomed, they should be addressed directly to the officers or the Association and should not be stated carelessly and publicly at large without direction.

While these are my conclusions, it should be recognized by all that the sincerest welcome and the widest latitude should be given to discussion looking to affirmative and constructive development of all departments of the Association.

That in the recent past the Association could have increased its scope of activity and more widely and inclusively represented all phases of pharmaceutical interest no one will deny. It should be remembered, however, that when the Association was established and long after, the present complex and in some respects divergent aspects of pharmacy did not exist and that in the opinion of many it was part of the function of the Association to discourage rather than encourage especially the tendency toward commercialism that began several decades ago and which has reached such a momentum by this time that it soon will, happily, establish itself as a separate and perhaps necessary, but certainly respectable business, leaving to pharmacy proper its rightful professional status. The fact should also be kept in mind that the work and affairs of the Association were and are carried on by the coöperation of officers and committees elected or appointed annually, as is the case with all other similar organizations and that, therefore, and naturally, the distinct advantages of a continuous and uninterrupted management and development under a single executive or under a very small group of executives, such as for instance, every large business employs, were and are lost.

While I give my personal endorsement to the past conduct of Association affairs, I yet must repeat the urgent necessity now of adjustment to the conditions of the times and this adjustment must take the form of coöperation within and without the Association. To-day the competitive system, or at least many phases of it, is moribund and coöperation is rapidly taking its place. The tendency and necessity of the age is decidedly coöperative and individualism, personal and national, is passing out because the individual is beginning to realize more fully his dependence and that his greatest security and advantage lie in his joining with others toward common ends. Nations are in the process of the same realization. Single nations are no longer self-sufficient in war or commerce or in other respects, hence the present national alliances which unhappily are presently war measures, but soon will happily become peace measures. The merging of political units having common economic interest into large economic areas, which in a real sense are supernations, is now going on. Competition between these vast areas may go on for a time, but ultimately necessity and interest will cause these to unite or combine and then world peace will have been established out of which will flow untold unforeseen benefits. Pharmaceutical associational units must unite similarly for the common welfare of themselves and of all they represent and the federation or union I have already suggested again forces itself to the foreground as the means to the most necessary consummation before us.

Association Finances.—I will not violate the propriety that suggests that the president leave the presentation of association finances to the treasurer and the finance committee, but I think it is permissible that I record my study of the published financial records and my conclusions that the Association's finances have been managed quite as well as association finances are usually managed. As evidence of this I call attention to the significant fact that the capital including invested funds has increased to more than \$50,000. It is obvious that the JOURNAL and the Year Book, which have now replaced the annual volume of Proceedings, are more expensive than the Proceedings were, but they have increased the service and usefulness of the Association to a degree greater than that constituting the difference in cost, and represent an increase in the value of the Association working plant worth more than the cost. As I see it, the excess of expenditures over the income of past few years may be looked upon as the cost of an increase in the Association business activity and service. It is by no means certain that this increase in the running business of the Association was unwise; indeed, personally, I think it was most wise. There is no reason why in the near future the income cannot be adjusted to the new basis of expenditures. To do this, increase in membership is the best way for the immediate present that suggests itself for accomplishment by the individual members. If every member would make it his or her task to secure at least one new member the adjustment would be assured. The

task would be an easy one. Some members are doing it over and over. The Committee on Membership no doubt is doing all it can, but the best results are obtained by personal work. Surely no member would be willing to admit that he is not easily equal to the task of adding at least one member to the rolls. Possibly most members are not aware of the constant necessity of enlarging the membership. All other associations I know of are in similar constant need. I believe if this need were brought sufficiently home to every one of our members, the results would be most gratifying. Invitations to membership could consistently be based upon the two-fold argument of duty on the part of and advantage to the prospective member. An increased membership would also greatly facilitate the securing of additional advertising for the JOURNAL.

THE JOURNAL and the Year Book.—These two publications are now securely established and have demonstrated their value and usefulness. They should be continued as separate publications and further developed. They represent assets larger than those of the former Proceedings and their service is also much greater. It is only natural that they should cost more. To meet this additional cost is merely a matter of adjustment, as I have already stated, of which the Association is abundantly capable. Both publications are in the hands of men whose judgment, ability and experience are such that full reliance can be placed upon them for the consistent maintenance and development of these two very representative Association activities.

I cannot believe that the federation I have proposed, or a similar one, will not become established. If, however, it is not realized, then in the near future the JOURNAL ought to be issued semi-monthly and later weekly.

The National Formulary.—The National Formulary is an achievement with which the Association may be well satisfied. It has not only established itself firmly in our country, but is well and favorably known in all foreign countries. The fourth edition is a most representative successor to the earlier editions and all who were in any wise connected with its production are to be commended for their efficient work. By act of Congress in 1906 and later by a number of state legislative acts, the book has taken on the additional character of a book of standards and that is well. While we should be most careful in establishing standards, pharmaceutical standardization has as yet not reached a sufficiently high degree of development and all upward tendencies in this respect ought to be encouraged and happily are encouraged by the majority of pharmacists. Comparatively little criticism has been directed against the National Formulary and against the Association in its relation to it. That fact and the general approval and increased sale of the book evidence a general satisfaction not only on part of the membership but on part of American pharmacy. The Committee on the National Formulary will, of course, report fully.

The House of Delegates.—The idea underlying the creation of the House of Delegates is sound. I believe if the advantages of a well-established House were more universally studied by the membership at large, the House would receive all needed approval and support. It could be made more useful as a means of linking especially the local branches and state associations more firmly to the Association. The House of Delegates cannot supplant the Council under our present charter.

I recommend that a suitable committee be named to study the functions and operation of the Houses of Delegates of other associations and a plan formulated and presented to the Association outlining in detail how our own may be improved.

The Branches.—It is pleasing to be able to report that the Branches are growing in numbers and in influence. At present no formulated and uniform rules or suggestions to guide all the Branches exist. Possibly all Branches would be willing to adopt identical rules or by-laws. The procedures and powers should be uniform and identical. It should be understood that the Association, without

ratification, is not bound by Branch action. The administrative power of Branches must necessarily be limited.

The Committee on Branches, I believe, will make some constructive recommendations along the lines I have suggested.

The Association should encourage and help the Branches in every way and through them should emphasize throughout the country the higher ethical and professional standards and ideals which it advocates.

Every important geographic center should have a Branch. The Committee on Branches could possibly suggest additional centers where Branches might be established and be made to flourish.

The Fairchild Scholarship.—Rules and procedure governing the awarding of this scholarship are now completed and the scholarship may be awarded the ensuing school year. The committee will report fully.

College Prerequisite.—A sufficient college training as a prerequisite to full registration to practice is being recognized in an increasing degree by the several states. While this tendency is gratifying, the fact should be kept in mind that a sufficient academic training on which to base a college education is most necessary. No prospective practitioner should have less than a full four-year high school training. It is fundamental in every calling that the average of intelligence of its members continually increase. I earnestly recommend that the Association continue using its fullest influence toward higher academic, as well as professional, qualification on part of those entering the ranks.

Women in Pharmacy.—It is no longer doubted that women may become successful pharmacists. They are entering the ranks in increasing numbers. They show a commendable scholarship and application and exercise an upward influence in their surroundings. Our own Women's Section is a constructive influence in American pharmacy. Every woman pharmacist should be a member of it.

The Officers and Committees.—It is probable that the average member does not realize how large and varied are the aggregate activities and work of the Association. I did not fully realize them before you entrusted the highest office to me. These activities have been carried on in an intelligent and capable manner by the respective officers and committees. (If I were not an officer, I would congratulate the Association on its good fortune in having so efficient a set of officers and committeemen as it has.) While all these gave to the Association a very valuable and generous service and while a goodly number gave me, personally, partly upon request and partly unsolicited, help and suggestion that I prized highly, I feel I should mention especially the fine interpretation and discharge of secretarial duties and the wide scope of work of Association Secretary Day, the splendid work Editor Eberle did in the administration of the JOURNAL affairs and which will be brought out in reports later on, the conspicuous and constructive activity of Council-Secretary England particularly in the recognition propaganda matter, the hard-headed and financial efficiency of sagacious Treasurer Whelpley, and the extensive and important committee and delegate work done so willingly by members Army, Beal, Beringer, Hilton, Mayo and Wallace. The committeemen and section officers as well did their respective work well and willingly, giving of their time and in some cases of their means freely and unselfishly. To all these the thanks of the Association are due and my own are hereby gratefully tendered them.

As for myself, I can only say that I gave the Association affairs every moment that I could spare from my numerous other duties, amounting in all to more than one-third my entire time. This I was enabled to do because of the sympathetic understanding on part of my superior University officer, President George E. Vincent, of the duties and importance of the high office with which you honored not only me but the state of Minnesota and the Northwest and who in virtue thereof gave me a free hand in the disposition of my time in the administration of my University and Association work. A very large part of the time of my University

secretary was at my disposal for Association work. Despite these facts I am not satisfied with what I accomplished because I had to leave so many, what I regarded as quite necessary, things undone. In the presidency of an association of the importance, influence, and dignity of ours, is inherent the obligation of a very broad scope of direction and initiative which I am certain the averagely situated incumbent cannot fully meet. Whether it is sufficient that he do the best he can under his governing circumstances, as I have done, is a question for the Association to consider. Unquestionably, the minimum he must give to his administrative work consumes a large share of his time and requires his dominant interest and concern. His full time and energy would be none too much to give if the maximum administrative results should accrue to the Association. If the federation is established, the president thereof or an officer of the nature of a general manager should be enabled to give his full time and ability to the Association.

Pharmacy in the Army and Navy.—The propaganda for more adequate recognition of pharmacy in the Government service is probably a matter of common knowledge among pharmacists. Immediately after a state of war was declared, I took up with Dr. F. F. Simpson, Chief of the Medical Section, Advisory Commission, Council of National Defense, with the Secretary of War and the Surgeon General of the Army and with others the justice and need of according to pharmacy a status commensurate with the importance of pharmaceutical service to the Government. I wrote Dr. Simpson and sent a copy of the letter to the Secretary of War as follows under date of April 10th, four days after a state of war was declared to exist:

DR. F. F. SIMPSON, *Chief,*
Medical Section, Advisory Commission,
Council of National Defense,
Munsey Building, Washington, D. C.

MY DEAR DOCTOR: I have just learned that you are about to organize the medical resources of the country and that the work contemplates the creation of a medical reserve corps of surgeons and physicians to aid the Army and Navy and civilian population in time of war, and the mobilization of factories making medical supplies, hospitals and the like. Although I am not certain that I am right, it yet appears to me pharmacy is not in any wise represented in the work you are undertaking. That this is a matter of extreme regret to pharmacists is of less importance than the fact that, without a strong pharmaceutical representation in the work you are about to do, the country will be deprived of a very necessary, efficient and far-reaching service, such as pharmacy can render. There are more than fifty thousand pharmacists in the country and a much larger number are engaged in other pharmaceutical activities. The pharmaceutical body of the country is represented by a number of very strong pharmaceutical organizations: The American Pharmaceutical Association, the American Conference of Pharmaceutical Faculties, the National Association of State Boards of Pharmacy, the National Drug Trade Conference, the National Association of Retail Druggists, the National Wholesale Druggists' Association, the American Drug Manufacturers, the Proprietaries Association, etc. These associations, with which are affiliated the several state associations, represent such an important and large measure of the nation's activities that the country could not afford to indulge in the remissness of not recognizing them and the service they can and would render. The fact is that a very large part of the service that is now represented only by medicine is distinctly pharmaceutical and should be so recognized by proper representation.

It is unfortunate that the United States has not a pharmaceutical corps for the control of medical supplies service such as all other great countries, except Great Britain and Russia, have. In all of these countries a corps of highly trained pharmacists with commissioned rank has the medical and pharmaceutical supply service in its hands. The head of this service in Germany is of the rank of colonel; in Japan, of the rank of lieutenant colonel; in Italy and France, of the rank of major-general. These men are experienced pharmaceutical chemists of high attainments and qualifications, capable of directing medical and pharmaceutical supply service. Our own country contains many such men. It is not unreasonable for me to assert that such are at least as capable, if not more so, for this kind of service as a surgeon detailed to the medical supply department is.

A surgeon cannot possibly give the expert service which could be given by men who have devoted a life-time to this particular pharmaceutical service.

That American pharmacy is not represented in the country's service in the form of a pharmaceutical corps composed of men equal in rank with those in the medical service is unquestionably due to the fact that American pharmacy has not exerted that pressure for this deserved recognition and opportunity to serve that it is capable of. Much dissatisfaction on part of representative pharmacists in this respect has come to me since I am the incumbent of the presidency of the American Pharmaceutical Association. It is my opinion that the country cannot continue to ignore American pharmacy as it has done in the past.

Because I have not had opportunity to consult with the members of the Council or other officers of the American Pharmaceutical Association, I would like it understood that I am writing this letter in the capacity of merely one officer of the Association.

I will send copies of this letter to the Honorable Secretary of War and to the President of the United States.

Hoping that you will receive this letter in the same friendly and fraternal spirit in which it is written and that you will recognize that its basis lies in an anxiety to be helpful in the largest measure to the country in this present crisis, I am,

Very sincerely yours,

FREDERICK J. WULLING,
President A. Ph. A.

No reply having been received by April 17th, I wrote the Secretary of War a letter of which the following is a copy:

THE HONORABLE SECRETARY OF WAR,
Washington, D. C.

MY DEAR SECRETARY: It appears that pharmacy has no adequate representation in the Army and Navy and that no representation has been accorded it on the Council of National Defense. Medicine is strongly represented. Medicine is not pharmacy, nor does it include pharmacy as evidenced by the existence of the separate pharmaceutical profession. National defense without adequate pharmaceutical representation and recognition can never be as effective as it can be with pharmaceutical participation under a proper standard of recognition. Medical men are not pharmacists and, as far as I know, do not claim to be. They cannot any more give expert pharmaceutical service than pharmacists can give medical or surgical service. In the failure to recognize and employ the expert pharmaceutical services available, the Defense falls short in that degree, as I see it. It is fallacious to claim that pharmaceutical service in war or peace is negligible or of so low a grade that it shall be a hand-maiden to any other division of the service.

The Council of National Defense has appointed a committee, of which your esteemed self is chairman, to effect, among other things, a practical standardization of pharmaceutical supplies. Who is as competent as a highly trained expert pharmacist to direct this standardization and other purely pharmaceutical activities? Unless this kind of work is under the direction or responsible participation of such a pharmacist, the country is deprived of the best kind of service in this field and yet is entitled to the very best that the country affords. This kind of expert service is freely at hand and available and, as president of the American Pharmaceutical Association, I respectfully request and urge that it be employed. I feel that if I did not make this request and make it with the fullest strength of whatever influence my office carries, I would not be doing my duty to my country, not to speak of my duty to my calling.

It should be considered that in a crisis such as this country finds itself in at the present time it is unwise to risk the possible displeasure of so large a part of the representative citizens as pharmacists constitute. There are probably in excess of 500,000 persons engaged in pharmaceutical activities. They are represented in a large measure by a number of strong national and state associations, among them the American Pharmaceutical Association, the National Association of Retail Druggists, the American Conference of Pharmaceutical Faculties, the National Wholesale Druggists' Association, the American Drug Manufacturers, The National Drug Trade Conference,

the National Association of Boards of Pharmacy, the several state associations and others. The good will in the fullest measure of all these is essential. I do not maintain that these interests would withhold their good will if not given deserved recognition and the opportunity to serve in their fullest capacity, but I do maintain that proper recognition would greatly stimulate and augment their help and loyal support.

Permit me to further direct attention to the unfortunate fact that the United States has not a pharmaceutical corps for the control and direction of medical and pharmaceutical supplies service such as all other great countries, except Great Britain and Russia, have. In each of these larger countries a corps of highly trained pharmacists with commissioned rank has the medical and pharmaceutical supplies service in its hands. The head of this service in Germany is of the rank of colonel; in Japan, of the rank of lieutenant-colonel; in Italy and France, of the rank of major-general. These officers are experienced pharmaceutical chemists of high attainments and qualifications, capable of directing their respective service. Our own country contains many such men who are at least as capable, if not more so, for this kind of service as a surgeon could possibly be. That American pharmacy is not represented in the country's service in the form of a pharmaceutical corps composed of men equal in rank with those in the medical service is undoubtedly due to the fact that American pharmacy has not exerted that pressure for this merited recognition and opportunity to serve under its own responsibility and standard that it is capable of. Much dissatisfaction in this respect on the part of representative pharmacists in all divisions of the calling has been reported to me recently. It is my opinion that the country cannot afford to continue to ignore American pharmacy as it has done in the past.

In my humble opinion, if the post of Chief Medical Purveyor is not already in existence, it ought to be created and put in charge of an expert pharmaceutical chemist of administrative ability. Such a one should be clothed with ample authority and should be at least of the rank of colonel. The importance of the medical and pharmaceutical supply service can hardly be exaggerated. The Hospital Steward of the present should not be confounded with the highly trained pharmaceutical chemist of administrative capacity I have in mind. Our late war with Spain demonstrated the utter inadequacy and futility of methods then in use for the purchase, manufacture and distribution of pharmaceutical and medical supplies.

In writing you thus I know that I am representing American pharmacy at large, but of course I have only the authority vested in the office I hold to speak for the American Pharmaceutical Association.

In this letter I mean no disrespect to anyone. What I have said and urged grows out of my loyalty to the country and the cause it is championing.

With assurances of highest esteem, I am,

Very respectfully yours,

FREDERICK J. WULLING,
President A. Ph. A.

To this letter the following reply was received from the Council of National Defense under date of April 28, 1917:

MR. FREDERICK J. WULLING, *President*,
Minnesota University,
Minneapolis, Minn.

DEAR SIR: Your letter of the 17th addressed to the Secretary of War has been referred to this Department for attention and I wish to thank you for your interesting suggestions.

Your letter has been filed in this office for future reference.

Very truly,
(Signed) JOHN S. LAWRENCE,
Assistant to the Director.

The Chairman of the Council joined with me at once in establishing a Committee of National Defense to lay before the Government more fully our claims and arguments for equitable pharmaceutical representation in the war preparations. Members of this committee have had a conference with the Surgeon-

General. No doubt the committee will report fully. I continuously and consistently emphasized the fact that pharmacy sought and urged this representation not for any selfish motives, but for the patriotic reason that without it that kind of efficient service, of which pharmacy is abundantly capable, could not be rendered and the national defense would in that degree be deficient.

Under date of May 5th the Secretary of War replied to the copy of my letter to Dr. Simpson as follows:

MY DEAR MR. WULLING:

On the receipt of your letter of April 10th, inclosing me a copy of a letter written by you to Dr. F. F. Simpson, I referred it to the Surgeon-General of the Army for comment for my information. I hand you herewith a copy of a memorandum made by Surgeon-General Gorgas. The only affirmative recommendation made by the Surgeon-General would require legislation from Congress, and at the present moment I do not feel myself in a position to secure the attention of Congress to the subject. Perhaps a little later that may turn out to be possible.

Cordially yours,
(Signed) NEWTON T. BAKER,
Secretary of War.

Inclosure 1.

Copy of inclosure:

May 4, 1917.

MEMORANDUM for the Secretary of War:

1. Returning letter of Mr. Frederick J. Wulling, President of the American Pharmaceutical Association, I will say, first, that Mr. Wulling is entirely mistaken in stating that the Government physicians and surgeons render pharmaceutical service to the United States. Such is not the fact. The pharmacists of the Army are the non-commissioned officers of the Medical Department, men who are thoroughly qualified for their duties. In fact, some of them are members of the American Pharmaceutical Association. Under existing conditions, I see no reason for the establishing of a corps of pharmacists in the Army, as the present methods are satisfactory.

2. In regard to the statement that the head of the pharmaceutical service of foreign countries holds rank, as, for example, Germany, that of colonel; Japan, lieutenant-colonel; and Italy and France, major-general, I will say that this is true; but in the United States the Government purchases its drugs ready made from reliable wholesale druggists. In foreign countries the commissioned pharmacists manufacture the various drugs from vegetable products, etc. Their function is not that of compounding prescriptions, as is the practice in the United States Army. Should the Government adopt the plan proposed of commissioning pharmacists, and, as in foreign armies, assign the duty of the manufacture of pharmaceutical preparations rather than the compounding of prescriptions, we would receive protests against this practice from the manufacturing druggists and from other organizations that deal in pharmaceutical preparations.

3. I recommend that no action be taken looking toward the commissioning of pharmacists in the Army. But I would like to see the grade of pharmaceutical sergeant, and master pharmaceutical sergeant, established and open to the entrance of the graduates of pharmaceutical schools. I would like to see these non-commissioned officers admitted to the Medical Corps in the same numbers as are the hospital sergeants, and the master hospital sergeants, at present.

(Signed) W. C. GORGAS,
Surgeon-General, U. S. Army.

This memorandum speaks for itself and no further comment is necessary.

As further evidence of the patriotism of this Association, on April 18th I offered its services to the President of the United States in a letter of which the following is a copy:

His Excellency,
PRESIDENT WILSON,
Washington, D. C.

MR. PRESIDENT:—As President of the American Pharmaceutical Association and with the concurrence of Mr. Lewis C. Hopp, Cleveland, Ohio, Chairman of the Council of the Association,

I hereby pledge the loyal support of the Association and tender to you and the Government such services as the Association can give in the present crisis of the country. Many of the members of the Association have already offered their individual services, but the Association may be able to give a service as an organization. It is ready and willing to help the Country in any way it can and holds itself in readiness to be advised by you or by your orders.

Respectfully yours,

FREDERICK J. WULLING,

President A. Ph. A.

The President replied as follows:

THE WHITE HOUSE,
Washington.

April 28, 1917.

MR. FREDERICK J. WULLING, *President*,
American Pharmaceutical Association,
Minnesota University,
Minneapolis, Minn.

The President is very grateful for your generous pledge of coöperation and support, and he hopes that you will accept this informal acknowledgment of your message as an expression of the deepest appreciation of your patriotic offer.

Not only our own Association and some of its Officers, but many other national and state associations, drug exchanges and individuals and notably the American Medical Association have advocated a more just recognition of pharmacy by the Government. So far it has not been explained why dentists, veterinarians and even nurses occupy a Government status superior to that accorded to pharmacy. Pharmacy, although it has a clear case, so far has not sufficiently asserted itself. It should now take on an aggressive, even militant, spirit in justice to itself and to those who need its best service. The proposed federation is the logical means to enable pharmacy to make itself felt. Much recognition propaganda work has been done by separate forces, but scattered forces cannot possibly accomplish what a solidly united body-pharmaceutic could. I have strongly urged, and so have others, a pharmaceutical corps. A federation representing the entire body-pharmaceutic ought and could succeed in the endeavor to have such a corps established. Recently President Wilson conferred the authority upon the Surgeon-General to create a Sanitary Corps. From that fact I judge the President has the power to authorize the creation of a pharmaceutical corps, but others feel Congressional action is necessary and hence on July 25th Representative George W. Edmonds introduced a bill into the House entitled, "H. R. 5531, A Bill to Increase the Efficiency of the Medical Department of the U. S. Army, to provide a Pharmaceutical Corps in that department and to introduce the status and efficiency of the pharmacists in the Army." The bill was referred to the Committee on Military Affairs and ordered to be printed.

The status of the pharmacist in the Navy is also unsatisfactory and inadequate contrary to the general conception, and duly our efforts should be directed toward securing for the men in the Navy the same competent pharmaceutical service persons in civil life enjoy.

The Spirit of American Pharmacy.—In conclusion: The most important recommendation I have made is the creation of a strong, representative and forceful federation of all pharmaceutical interests to be permanently housed and endowed. All else seems secondary to me at this time. This matter should be nearest the heart of every loyal pharmacist in whatever division of our calling his interest lies, because it is the only efficient and sensible means of accomplishing our just, obligatory and imperative aims. I solemnly sound the note of warning that further and continued collective pharmaceutical inactivity and indifference will ultimately result in the disintegration and emasculation of a calling that still has as its basic

and underlying principle a nobility of purpose and service. The abhorrence of the thought of such an end should arouse and stimulate every American pharmacist into a quick and dynamic resolve to aid in every way the endeavor to mobilize our pharmacy into a resistless, affirmative, constructive force that will prevent ultimate disaster and bring to pharmacy the respect and recognition and opportunities that should naturally issue to so noble and serviceable a calling. American pharmacy taken as a whole is suffering from the results of pharmaceutical unpreparedness and unforesightedness, due no doubt primarily to two causes: the first, an all too universal lack of sufficient education, academically and professionally; and second, insufficiently far-reaching and effective aggregate or collective organization of the body-pharmaceutic. A large part of the civilized world is now in the fateful hour of witnessing the dire results of democratic unpreparedness for which it is paying a penalty never before equalled in all history. Pharmacy has too long been on the defensive because it lacked a unified force and weapon of resistance. I am asking and counseling that it awaken more universally and become consistently aggressive. Time lost can be regained. We must immediately begin to project pharmaceutical efficiency in an accelerating degree into the future. We must first put our pharmaceutic house into better order and in an unselfish, loyal and generous way unite, harmonize, correlate and synchronize our interests, forces and strength for a righteous common purpose. I am addressing not only the members of the American Pharmaceutical Association, but every person engaged in any division of American pharmaceutic activity. The duty as well as the obligation is upon every such a one, and there are no exemptions now to show his fealty and loyalty to his calling. Not only do I counsel but I appeal to all members of the body-pharmaceutic to give personal, thoughtful consideration and study, in the light of experience and wisdom of to-day, and not of yesterday, to our individual and collective problems and when thus fortified, to resolve everywhere in our beloved country to enter with grim determination upon the rehabilitation and further upbuilding of the pharmaceutic structure into one of greater solidity, eminence and usefulness. The cause for which we are to fight and sacrifice is devoid of any selfish purpose. We should more aggressively employ every proper and approved means to increase the efficiency of our calling and to more greatly deserve the respect and recognition we are already entitled to. The past has proven that the present must proceed on coöperative, coördinate and reciprocal lines to meet successfully the many perplexing questions demanding settlement. A barren pharmaceutical organizational heterogeneity must give way to a wholesome homogeneity and a fruitful coalescence of all pharmaceutical interests. Every member of the body-pharmaceutic must do his or her share toward the common cause even if the contribution must take the form of an actual sacrifice. The present conditions demand imperatively undivided adherence to a purpose that has been all too long delayed. The spirit of American pharmacy has never been crushed. It may have been somnolent. We must awaken and arouse it into activity and give it proper direction. It can accomplish what an aroused interest determines upon.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

RELATIONS OF THE U. S. PHARMACOPOEIA AND NATIONAL FORMULARY TO FOOD STANDARDS.*

BY C. W. BALLARD.

The United States Pharmacopoeia IX and the National Formulary IV while not perfect are, as a whole, admirably suited to the needs of the drug and pharmaceutical analyst. The definitions with exact limits for foreign materials and the statements as to the nature of the latter, eliminate to great extent any quibbling over the different ways in which official standards may be construed and make for a surer, wider enforcement of those provisions of the Food and Drugs Act which relate to drugs. The drug trade, wholesale and retail, is now furnished with exact information, easy of access and readily understood, regarding the standards with which their merchandise must comply. Failure of compliance is difficult of justification by any claims of misinterpretation of these standards and more difficult to explain away if the offender is prosecuted. The clause in the introductory notes restricting the applications of both U. S. P. and N. F. standards to articles intended for medicinal use, does not interfere in any way with the employment of crude or technical grades of drugs or chemicals in the arts or for manufacturing purposes. But this "medicinal use" restriction clause, as we have discovered, is a source of some peculiar and often troublesome situations for the food and drug analyst, the wholesale druggist and the retail pharmacist.

While it is entirely desirable, in most instances, that the proposed use of an article should determine whether or not it must comply with Pharmacopoeial or Formulary requirements, it is difficult to understand why food concerns may sell a mixture of cinnamon bark and cassia buds as ground cinnamon, while the drug trade must supply cinnamon U. S. P. when ground cinnamon is specified. The reasons why we should use U. S. P. cinnamon in medicine, where in most instances it is used as a carminative or flavoring agent, but are permitted to use a lower grade article when it is employed as a food flavor, are not very apparent to the writer. One reason, perhaps the main one, is that the drug trade is governed by the provisions of the U. S. P. and N. F., whereas food industries are regulated by the standards of U. S. Dept. Agriculture Circular 19 and subsequent Service and Regulatory Announcements.

Several articles named in the U. S. P. and N. F. are more used for condimental or food purposes than they are used in medicine. For example, the use of vanillin as a flavor entirely overshadows its medicinal use. In this list of condimental or flavoring articles are several for which there are no official preparations in either U. S. P. or N. F. As matters stand at present and by virtue of the "medicinal use" restriction, these articles, although intended for human use as flavors or accessories in food combinations, do not have to meet the requirements set for their use as flavors or accessories in drug combinations, likewise intended

* Read before Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

for human use. The regulation is that a low-grade condiment or flavor in a food is permissible, but that the highest grade materials must be used for the same purpose in medicine. Considering that both foods and medicinal products of this sort are intended for internal use or human consumption it seems rather illogical to have two standards.

Having reviewed the relations of the U. S. P. and N. F. to the food regulations of the Food and Drugs Act, we turn to the official authorities on the standards of purity for food products as represented by Circular 19 and consider the requirements for various condiments as stated in this publication. In an introductory statement of the principles upon which the standards are based we find the following:

"1. The standards are expressed in the form of definitions, with or without accompanying specifications of limit in composition.

3. The definitions are so framed as to exclude from the articles defined substances not included in the definition.

4. The definitions include, where possible, those qualities which make the articles described wholesome for human food."

We will give attention to the first and third of the above principles. When the Eighth Revision of the U. S. Pharmacopoeia became an official standard under the Food and Drugs Act, difficulty was experienced in prosecuting those violating its provisions applying to crude drugs. Definitions which did not permit small amounts of extraneous material were shown to be practically impossible of attainment. Even though the drugs could be separated and freed from all foreign matter, the labor involved would make the price prohibitive and the material gain in quality would be slight. The Ninth Revision takes proper cognizance of this situation by permitting a fixed amount of inert or foreign matter. This arrangement appears to be agreeable to all concerned and the market is supplied with fairly good materials at a reasonable price. The principles quoted above apparently do not allow for trifling amounts of foreign matter which might not materially interfere with the use of a substance for food. The general definition for spices, in Section "D," provides that no portion of the flavoring material must have been removed and that they must be clean, sound and true to name. In the matter of specifications for individual articles mentioned in the text of this section, it will be found that of the thirty-eight items enumerated, extended specifications are given for but sixteen. The balance are disposed of by merely stating the part used and the botanical name of the plant yielding the article. If this type of definition was found faulty in the previous revision of the Pharmacopoeia, the same considerations should make it inefficient in food regulation. Immature or unripe fruits of anise, caraway and coriander will comply with all the requirements fixed by the general definitions of Circular 19. No portion of the flavoring materials may have been removed and they may be clean, sound and true to name, but at the same time be decidedly inferior and represent materials of low grade. Could such materials be considered as fulfilling the provisions of principle No. 4? Would they be as wholesome for human food uses as the pharmacopoeial articles even though the latter contained the trifling amounts of foreign matter permitted by specification?

There appears to be an admission that the standards of Circular 19 are incomplete in the recent adoption of tentative standards for a few articles. Re-

FOOD OR CONDIMENTAL ARTICLES NAMED IN THE PHARMACOPOEIA, FORMULARY AND CIRCULAR 19, WITH COMPARISONS OF THESE STANDARDS.

Article	Pharmacopoeial or Formulary Requirements	Circular 19 Standards
Allspice	Dried nearly ripe fruit, <i>Pimenta officinalis</i> Stems and foreign matter = 5% max. Ash = 6% max. Fiber = 25% max. Quercitannic acid =	Dried fruit of <i>Pimenta pimenta</i> 6% max. 25% max. 8% min.
Anise	Dried, ripe, fruit <i>Pimpinella anisum</i> . Foreign matter = 3% max. Ash = 9% max.	Fruit of <i>Pimpinella anisum</i>
Caraway	Dried fruit, <i>Carum carvi</i> . Foreign matter = 3% max. Ash = 8% max.	Fruit of <i>Carum carvi</i>
Cayenne Pepper	Dried, ripe fruit, <i>Capsicum frutescens</i> . Foreign matter = 2% max. Nonvolatile ether ext. = 15% min. Ash = 7% max. Ash soluble in HCl = 1% max. Starch = Crude fiber =	Dried, ripe fruit <i>Capsicum frutescens</i> or other small fruited species. 15% min. 6.5% max. 0.5% max. 1.5% max. 28% max.
Celery Seed	Ripe fruit <i>Apium graveolens</i> . Foreign matter = 10% max. Ash = 8% max. Ash, acid insoluble = Ethereal oil =	Dried fruit of <i>Apium graveolens</i> . 5% max. (Note "A") 10% max. (Note "A") 1.2% max. (Note "A") 2% min. (Note "A")
Cinnamon	Dried bark of undetermined species <i>Cinnamomum</i> . Volatile ether ext. = 2% min. Ash = 6% max. Ash insoluble = 2% max.	Dried bark any species genus <i>Cinnamomum</i> ; outer layers may or may not have been removed.
True Cinnamon	Dried bark, cultivated trees <i>C. zeylanicum</i> . Foreign matter = 3% max. Volatile ether ext. = 0.5% min. Ash = 6% max. Ash insoluble = 2% max.	Dried inner bark of <i>Cinnamomum zeylanicum</i>
Cassia	(Oil from <i>C. cassia</i>)	From various species of <i>Cinnamomum</i> other than <i>C. zeylanicum</i> . Note "B"
Ground Cinnamon and Ground Cassia	Note "B"	Note "B"
Cloves	Dried flower buds, <i>Eugenia aromatica</i> . Stems and foreign matter = 5% max. Volatile ether ext. = 10% min. Ash = 8% max. Ash insoluble = 0.5% max. Quercitannic acid = Crude fiber =	Dried flower buds of <i>Caryophyllus aromaticus</i> . 5% max. (stems) 10% min. 8% max. 0.5% max. 12% min. 10% max.
Coriander	Dried ripe fruit, <i>Coriandrum sativum</i> . Foreign matter = 5% max. Volatile ether ext. = 0.5% min. Ash = 7% max.	Dried fruit of <i>Coriandrum sativum</i>
Fennel	Dried, ripe fruit, cultivated varieties <i>F. vulgare</i> . Foreign matter = 4% max. Ash = 9% max.	Fruit of <i>Foeniculum foeniculum</i>

Ginger	Dried rhizome, <i>Zingiber officinale</i> ; outer cortical layer partly or completely removed.	Washed and dried, or decorticated and dried rhizome of <i>Zingiber zingiber</i> .
	Aqueous ext. = 8% min.	.....
	Nonvolatile ether ext. = 2% min.	.....
	Alcohol ext. = 4% min.	.....
	Ash = 8% max.	6% max.
	Ash insoluble in HCl =	3% max.
	Lime =	1% max.
	Starch =	42% min.
Mace	Crude fiber =	8% max.
	Arillode of <i>Myristica fragrans</i> .	Arillus of <i>Myristica fragrans</i> .
	Volatile ether ext. = 8% min.	.....
	Nonvolatile ether ext. = 20-30%	20-30%
	Ash = 3% max.	3% max.
Mustard Seed	Ash insoluble in HCl = traces	0.5% max.
	Crude fiber =	10% max.
	Note "C"	Note "C"
Nutmeg	Ripe seed, <i>M. fragrans</i> deprived of arilli and seed coats. Reject wormy or broken kernels.	Dried seed of <i>Myristica fragrans</i> deprived of testa.
	Ash = 5% max.	5% max.
	Ash insoluble in HCl =	0.5% max.
	Nonvolatile ether ext. =	25% min.
	Crude fiber =	10% max.
Pepper (black)	Dried unripe fruit, <i>Piper nigrum</i> .	Dried immature berry, <i>Piper nigrum</i> .
	Foreign matter = 2% max.	.....
	Nonvolatile ether ext. = 6% min.	6% min.
	Starch = 25% min.	25% min.
	Ash = 7% max.	7% max.
	Ash insoluble in HCl = 2% max.	2% max.
	Crude fiber =	15% max.
	Nitrogen in ether ext. =	3.25% min.
Saffron	Stigmas of <i>Crocus sativus</i> .	Dried stigmas of <i>Crocus sativus</i> .
	Foreign matter = 10% max.	.....
	Nonfusible ash = 7.5% max.	.....
	Loss in wt. at 100° C. = 14% max.	.....
Thyme	Dried tops, <i>Thymus vulgaris</i> , collected when in flower.	Leaf and tips of blooming branches, <i>Thymus vulgaris</i> .
	Ash = 14% max.	14% max. (Note "D")
	Ash acid insoluble =	4% max. (Note "D")
	Stems =	15% max. (Note "D")
Vanilla	Ethereal oil =	1% min. (Note "D")
	Cured, fullgrown, unripe fruit, <i>Vanilla planifolia</i> .	Dried, cured fruit, <i>Vanilla planifolia</i> .
	Dilute alcohol ext. = 12% min.	.....
	Ash = 6% max.	.....
Coffee (roasted)	Dried, ripe seed, <i>Coffea arabica</i> or <i>C. liberica</i> roasted until brown in color and with characteristic odor.	Coffee (<i>C. arabica</i> or <i>C. liberica</i>) which by action of heat has become brown and developed its characteristic aroma.
	Caffeine = 1% min.	.....
	Ash = 3-5%	3% min.
	Fat =	10% min.

Note "A"—These standards do not appear in Circular 19, but notice of their adoption is given in Service and Regulatory Announcement No. 16.

Note "B"—Ground cinnamon according to Pharmacopoeial requirements would be prepared from saigon or ceylon varieties.

Ground cinnamon according to Circular 19, is a powder consisting of cinnamon (any species of the genus *Cinnamomum*) cassia, or cassia buds, or a mixture of these spices and contains not more than 6% total ash and not more than 2% sand.

Note "C"—The mustard seed of the Pharmacopoeia is intended for medicinal use only and is not well adapted for food uses.

Note "D"—These standards do not appear in Circular 19, but notice of their adoption is given in Service and Regulatory Announcement No. 14.

ferring to Service and Regulatory Announcements Nos. 14 and 16, we find complete specifications for marjoram, thyme, sabadilla seed, savory, fenugreek, celery seed and manna. In looking over notices of judgments under the Food and Drugs Act, I find that in a few instances defendants have been found guilty of misbranding articles mentioned in both U. S. P. and Circular 19, on grounds that the materials offered for sale were *not U. S. P.* even though no claim was apparently made by the defendant that the materials in question did conform to this standard. Oils of cassia and cinnamon were below the cinnaldehyde standards of Circular 19, but adulteration is charged not only on this count but also that the articles were sold under names recognized in the Pharmacopoeia and differed from the standards of purity and strength laid down in the latter. Optical rotation and specific gravity, both of which are not mentioned in Circular 19, figure in the condemnation of the samples. In passing we should note that the U. S. P. demands 80 percent cinnaldehyde and that Circular 19 requires 75 percent in oil of cassia and 65 percent in oil of cinnamon. Oil of red thyme, although not specifically marked U. S. P., was adjudged adulterated and misbranded in that it did not conform to pharmacopoeial standards. Apparently in cases involving articles mentioned in Circular 19, the Pharmacopoeia and the Formulary, all three authorities are used in proving adulteration or misbranding. The question of medicinal use in all of the above cases was apparently taken for granted, as variations from U. S. P. standards form the chief ground in each instance for the judgment. In Service and Regulatory Announcement No. 16, is an opinion that articles sold under names recognised in the index, but not appearing in the text of the Pharmacopoeia, are drugs within the meaning of Section 6 of the Food and Drugs Act. Under this opinion articles like zinc dust, peptone, carmine and the various reagents of Part II are amenable to Pharmacopoeial requirements. Also under this opinion vanilla, milk sugar and several other food or flavoring articles which do appear *in the text* of the Pharmacopoeia and Formulary are released from official specifications unless sold as drugs.

The preceding table clearly illustrates the differences between the drug standards and the food standards for articles mentioned in Circular 19.

Many of the definitions of Circular 19 are faulty in that they do not allow for the presence of trifling amounts of foreign matter, do not rule out immature materials, do not state ash limits and are otherwise incomplete. If such standards have not as yet been worked out by the Bureau of Chemistry, it might be a good plan for this Bureau to tentatively adopt Pharmacopoeial and Formulary standards until their investigations warrant the publishing of complete specifications. Some of the items in the above tabulation are worthy of a few additional words of comment.

Cinnamon.—The specification that cinnamon may be derived from any species of the genus *Cinnamomum*, without any further description, appears to be very loose. Any species of this genus might include *Cinnamomum camphora* and several others. The reason for considering Ceylon cinnamon as the true cinnamon is not clear. A mixture containing cassia buds cannot be considered equivalent to pure cinnamon bark for food purposes unless the prejudice against cassia buds is entirely without foundation.

Fennel.—It has been demonstrated that cultivated fennel plants produce fruit with more uniform and greater oil yield. The present Circular 19 definition,

by merely specifying the fruit, permits the latter to be gathered from wild plants which are admittedly inferior.

Ginger.—The activity of a ginger for medicinal as well as flavoring purposes, depends upon the amounts of oil and oleoresin present. Requirements for this extractive matter are omitted from the present Circular 19 definition and very low grades would meet the specifications there given.

Vanilla.—Vanilla cannot be thoroughly dried without injury to the desirable constituents, therefore the definition of Circular 19, if literally followed, would result in inferior grades. The dilute alcohol extractive materials are most valuable for flavoring purposes but the Circular does not specify any amount of such materials.

Volatile Oils.—In the case of the volatile oils, many of those mentioned in Circular 19 are entirely without standards. In prosecutions the Pharmacopoeial requirements are used in proving adulteration. It might be well to adopt the definite standards of the U. S. P. and N. F. to this class of materials, with exceptions for those intended for special uses.

Owing to disturbed commercial conditions of the past few years, merchants have been compelled to secure supplies from every possible source. Undoubtedly considerable material held by food manufacturers has found its way into drug channels. Citric and tartaric acids purchased by wholesale grocers and confectioners and used by them in food manufacture, have been resold to wholesale druggists presumably to supply their trade. These acids if sold by grocers and confectioners do not have to meet all the provisions of the Pharmacopoeia. If sold by a druggist, the same articles must conform to all official requirements or be sold as "technical" or "not U. S. P."

The situation may be summarized by the statement that the highest quality materials must be used for medicinal purposes, whereas lower grades may be sold as foods. In both instances the articles are intended for human consumption and in most cases enter the stomach in the same condition and have the same action there. Aside from the question as to whether these dual standards are unduly favorable to the food manufacturer and discriminatory toward the druggist, they tend to complicate the work of the analyst.

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SENNA BEANS.*

BY WILBUR L. SCOVILLE.

A sample of Senna Beans was submitted recently for investigation as to their medicinal value. The species from which they were taken was not stated.

The beans were about 15 millimeters in length, about one-third as broad and one-fourth as thick, slightly kidney-shaped and very hard. Externally they were slate-colored, internally grayish white, resembling most beans in color. The taste was mucilaginous, slightly acrid and nauseous. They contained a large amount of proteid (probably legumin) and a small amount of sugar, but no starch.

Tests for alkaloids and glucosides were negative. Tests for anthraquinone bodies were also negative.* The beans were entirely devoid of the cathartic principles which are found in senna leaves and pods. In other words the tests disclosed no medicinal value whatever in the beans.

LABORATORY OF PARKE, DAVIS & Co.,
DETROIT, MICH.

* Read before Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

TINCTURE OF CANTHARIDES.*

(FOURTH PAPER.)

BY WILBUR L. SCOVILLE.

In 1910 I called the attention of this Section to the fact that the U. S. P. Tincture of Cantharides does not adequately represent the drug, the alcohol extracting usually less than half of the cantharidin present. Also that a menstruum consisting of 10 volumes of glacial acetic acid and 90 volumes of alcohol makes a very satisfactory tincture. In the discussion it was stated that 10 percent of acetic acid was objectionable, although I pointed out that for external use this increased the activity of cantharides, and if taken internally the amount of acetic acid in 5 minims of tincture would correspond to about 8 minims of table vinegar.

In 1913 a second paper was presented giving the results obtained with menstrua composed of alcohol-chloroform, alcohol-acetone and alcohol-acetic ether, each with small amounts of acetic acid to liberate any combined cantharidin which might be present. The results shown with these varied from 26 percent to 74 percent of the drugs taken—a less satisfactory conclusion than was obtained in the experiments of the first paper.

In 1914 a third paper was presented giving results obtained by digesting the drug, first with boiling water containing a little acetic acid, then after partial cooling adding chloroform-alcohol or acetone-alcohol or acetic-ether alcohol, macerating for a day or two, then filtering. The proportions of water were adjusted so that the final tinctures were clear and homogeneous, neither water nor chloroform being in excess. By using chloroform-alcohol in this manner, one tincture was obtained which represented 100 percent of the drug used, but several subsequent attempts to repeat this success resulted in disappointment.

These tinctures represented mostly 75 percent to 85 percent of the drug taken.

The net result of the three papers is to show (1) that alcohol alone is not sufficient as a menstruum for cantharides because it does not extract even to saturation, and also because cantharidin is so little soluble in alcohol that even a saturated alcoholic solution cannot represent high-grade drugs which are in the market; (2) that digestion favors extraction and that hot water has peculiar advantages in this respect; (3) that some better solvent than alcohol is needed, either alone or in conjunction with alcohol as a menstruum; and (4) that cantharides are especially difficult to extract with any solvent.

There remained one other process to try, and this forms the substance of the present paper, namely, the extraction of the drug with a suitable menstruum and mixing this extract with sufficient alcohol to make a tincture.

Since acetic ether (ethyl acetate) is probably the least objectionable of the good solvents, this was used in all experiments.

The process used consisted in exhausting the cantharides (100 Gm.) in a Soxhlet apparatus with about 150 mls of acetic ether to which 5 mls of glacial acetic acid was added, adjusting the volume of the extract to 150 mls and then adding sufficient alcohol to make 1000 mls.

The tincture thus represented 10 percent of drug in a menstruum containing,

* Read before Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

by volume, 0.5 percent of acetic acid, 15 percent of acetic ether and alcohol to 100 percent.

Extraction with the acetic ether was continued until a few drops yielded no residue on spontaneous evaporation. It was found that 12 to 18 hours' extraction was required in most cases—the finer the drug the less the time required. In practical work more than 150 mls of the ether was required to saturate the drug and secure a flow in the Soxhlet without driving out all of the ether from the receiver before the flow recurs. Sometimes the volume of extract exceeded 150 mls by a small amount, sometimes it was less, and in order to secure uniformity in the tinctures the volume was adjusted, by evaporation or dilution, to 150 mls.

This was then poured into about 800 mls of alcohol, and the container rinsed with enough alcohol to make 1000 mls. A small amount of precipitate formed on mixing, and after standing 24 hours the tincture was filtered. Except for slight fat-deposits, of a semi-crystalline character, the tinctures have remained clear.

Drug A, contained 1.08 percent cantharidin and produced a tincture assaying 0.090 percent, representing 83 percent of the drug.

Drug B, contained 0.90 percent cantharidin and produced a tincture assaying 0.084 percent, representing 93 percent of the drug.

Drug C, contained 0.75 percent cantharidin and produced tincture assaying 0.071 percent, representing 95 percent of the drug.

A sample of U. S. P. IX tincture was also made from Drug C and assayed 0.010 percent of cantharidin, or only 13 percent of the drug was represented in the tincture.

Probably a small allowance for loss in the tincture must be made on account of the evaporation during the process of assay, cantharidin being slightly volatile even at room temperatures, but the last tincture certainly does not look well.

It is again evident that some solvent beside alcohol is needed for the extraction of cantharides. Of the solvents suitable, boiling water is efficient so long as it is boiling, but it is no longer a solvent when it is cold. Acetone is effective, but is not suitable for internal use. Glacial acetic acid is both rapid and effective, and for ordinary extraction by percolation is the most promising. Chloroform is probably the most ready solvent, but is more objectionable in the tincture than is ethyl acetate which extracts more slowly but which has proved sufficient for the purpose. Undoubtedly tinctures representing at least 90 percent of the drug can be made by extracting first with acetone or chloroform, and mixing this extract with alcohol.

The mixture of 10 volumes of glacial acetic acid with 90 volumes of alcohol has the advantage that it exhausts the drug by the ordinary process of percolation—if conducted slowly. It produces a tincture which is satisfactory physically, and is but about half as strong again in acetic acid as the old line of *aceta*. If used externally the acetic acid acts as an adjuvant—promoting and perhaps intensifying the action of the cantharides. If used internally the dose is so small that much less acid is taken than in other *aceta*, and the acid property cannot be considered as seriously objectionable. The internal administration of about 8 minims of table vinegar—which would be equal to the acid in 5 minims of such tincture—is ordinarily a matter of indifference.

The other alternative is to extract the drug first with ethyl acetate or chloroform, preferably in a continuous extraction apparatus, and with sufficient acetic acid to free all combined cantharidin, and then mix this extract with sufficient alcohol to produce the tincture.

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BOTANICAL NOMENCLATURE OF THE N. F. IV.*

BY OLIVER ATKINS FARWELL.

A careful examination of the botanical nomenclature adopted in the National Formulary IV shows that it follows in part the Vienna Code and in part the American Code, with a strong leaning toward the latter as the predominant feature. The adoption of the trinomial system is to be deprecated, as it makes the authors express an opinion which they had never for a instant entertained. The trinomial system under the American Code is the method of expressing a subspecies, the "Code" not recognizing the rank of variety. Yet in every instance where the trinomial is used the author quoted did not publish a subspecies; he published a variety. Geographical names are decapitalized; as they are proper names they should be capitalized the same as is done with other proper names. The following notes and comments may be of service in the next revision:

Agaricus.—Derived from *Polyporus officinalis* Fries. This is not the valid name for the fungus producing the white agaric used in medicine. Winter, in the second edition of Rabenhorst's Kryptogamen Flora, uses the above name; Murrill, in North American Flora, uses the combination *Fomes Laricis* (Jacq.) Murrill; Hennings, in Engler u. Prantl's Pflanzenfamilien, adopts both *Fomes* and *Polyporus* as distinct genera, but unlike Murrill refers the white agaric to *Polyporus* as *P. officinalis*. The species of *Fomes* are, perhaps, by most authors regarded as species of *Polyporus*, but whether *Fomes* or *Polyporus*, the oldest and valid specific name is *Laricis*. The proper name under *Polyporus* is *P. Laricis*. The proper name under *Polyporus* is *P. Laricis* (Jacq.) Scopoli.

Asarum.—Hyphenated words are rapidly going out of favor, the word being written as either one word or two distinct words; "snakeroot" is the most generally accepted way of writing the word, not "snake-root."

Cactus Grandiflorus.—The botanical origin is given as *Cactus grandiflorus* Linné, with the synonym *Cereus grandiflorus* Miller. These names certainly appertain to the drug known commercially as "cactus grandiflorus," but they are only synonyms and should not be used, especially the Linnæan name, for the plant producing the drug has not been classed in the genus *Cactus* by any botanist for nearly a century and a half. The proper name for this drug is *Selenicereus grandiflorus* (Lin.) Britton and Rose. In the third line of the description on page 275 the words "each about 2 mm." would be more accurate if changed to read "5 mm. or less," and the word "spines" after "flexuous" should be changed to "bristles." It may not be out of place to note here that a related Mexican species, the *Selenicereus pteranthus* (Link and Otto) Britton and Rose, has been used as a substi-

* Reprinted from *The Druggists' Circular*, May 1917.

tute. This drug is distinguished from the true by the absence of the long bristles from the tufts of spines.

Centaurium.—The drug is indicated as being derived from the *Erythræa Centaurium* (Linné) Persoon. The oldest generic name is *Centaurium* Hill. There is an older *Centaurea* Linné, but as the ending is different and it belongs to a very different family of plants, no confusion can arise from accepting Hill's generic name for these plants, as has been done in our local manuals. The proper botanical designation is *Centaurium Centaurium* (Linné) W. F. Wight.

Chirata.—In the U. S. P. 7th Revision the botanical source of this drug was given as *Swertia Chirata* Hamilton. It was changed in the 8th Revision on my advice, to *Swertia Chirayita* (Roxb.) Hamilton, which was retained, also on my advice, in the present 4th edition of the National Formulary. But this combination has never been properly published, and Hamilton did not use this form of spelling. The specific name has been spelled in various ways by various authors, as will be seen from the synonymy given below. The proper designation is as follows:

Swertia Chirayita (Roxb.) Farwell (Nov. Comb.).

Gentiana Chirayita Roxb. in Flem. in As. Res. XI p. 167 (1810) and in Flem. Cat. Ind. Medic. Pl. 21 (1810.)

Gentiana Chirata Wall Pl. As. Rar. III, 33, t. 252 (1832).

Gentiana Chirayta Roxb. Fl. Ind. II 71, 1832.

Gentiana Cherayta R. Fleming in C. B. Clarke Ed. Roxb. Fl. Ind. 264, 1874.

Swertia Chirayta (Roxb.) Karsten Deut. Fl., 1025, 1880–1883.

Cornus.—Those species of *Cornus* in which the inflorescences are surrounded by a corolla-like involucre are better considered as constituting a distinct genus. The proper name for the plant under this view is *Cynoxylon floridum* (Linné), Raf.

Corydalis.—The proper spelling of the generic name is *Bikukulla*.

Cypripedium.—The drug is indicated as being obtained from three species, *Cypripedium hirsutum* Miller, *C. pubescens* Willd., and *C. parviflorum* Salisb.

Cypripedium hirsutum.—This name of late years has had a varied career. It was first published by Philip Miller in 1768. Henrietta G. Fox used it in 1895 for the large yellow-flowered ladies slipper and it was later transferred to the large and showy, white-flowered *Cypripedium Reginæ* Walter, which name should supersede *C. hirsutum* Miller in the Formulary. Miller described his *C. hirsutum* as a plant one and a half feet in height, with oblong-oval, deeply veined leaves and reddish brown flower, flowering in May. In so far as my acquaintance with *Cypripedium* goes, Miller's description can apply to only one—the *C. acaule* Ait. This plant may be found in dry, sandy woods, in rocky woods, in rich, moist woods, and in peat bogs; it ranges in height from 3 or 4 inches to 22 inches, well above the limit assigned by Miller. It is certain that Miller would never have called the yellow flowers of *C. pubescens* or the characteristically white flowers of *C. Reginæ* "reddish brown," which color just suits that of the flowers of *C. acaule*. The time of flowering of the latter also agrees with the time given by Miller, while the flowering time of the former is in July, long after *C. acaule* has ceased to bloom. The proper name for the mocasin flower is:

Fissipes hirsuta (Miller) Farwell (Nov. Comb.).

Cypripedium hirsutum Miller Gard. Dict. Ed. 8, No. 3, 1768.

Cypripedium acaule Ait. Hort. Kew III, 303, 1789. The rhizomes and roots of this species could be used as well as those of the others allowed; they probably form part of the commercial drug.

Cypripedium pubescens and *C. parviflorum*: The oldest name for the large, yellow-flowered ladies slipper is *Cypripedium bulbosum* Miller, l. c. No. 2. Linnæus had another and older species of the same name, but as that belongs to a very different genus Miller's name is the valid one, and the small, yellow-flowered ladies slipper is *Cypripedium bulbosum* Miller var. *parviflorum* (Salisb.) Farwell.

Drosera.—There is some confusion existing regarding the nomenclature to be adopted for some of the species of *Drosera*. If *Drosera Anglica* Huds. were adopted instead of *Drosera intermedia* Hayne, the other names remaining as given, the result would be more in accordance with the rules of priority.

Euonymus.—The proper spelling for this generic name is *Evonymus*.

Euphorbia Pilulifera.—The proper name for the plant from which this drug is produced is *Euphorbia hirta* Linné; or if considered as a genus distinct from true *Euphorbia*, *Chamæsyce hirta* (Linné) Millspaugh.

Gossypii Cortex.—In *Gossypium Barbadosense* Linné, the specific name, a geographical one, is capitalized, as it should be; but this is an oversight of the proof-reader, as the intention was to decapitalize all such names. They should be re-capitalized.

Kava.—This drug is said to be derived from *Piper Methysticum* Forster. The name is not tenable for this plant because of an earlier and valid *Piper Methysticum* Linné *filius*; also the authority cited should have been Forster *filius*. The proper names and synonymy for the two species are as given below. Both are known as "ava," and as there is a very noticeable difference in the physical appearance of the roots of different lots of drug, it is possible that both species enter into the make-up of the commercial drug.

Piper Methysticum, Linné *filius*, Suppl. 91, 1781; and Lam. III. I. p. 81 (1791).

Piper latifolium Linné *filius* Suppl. 468, 1781, and Forster *filius* Prod. 5, 1786.

Macropiper latifolium Miq. Syst. Pip. 218, 1843-4.

The species of the National Formulary is:

Piper esculentum (Raf.) Farwell (Nov. Comb.).

Piper Methysticum Forster *filius* Pl. Escul. 76, 1786, and Prod. 5, 1786 non Linné *filius* 1781.

Methysticum esculentum Raf. Sylva Tellur. 85, 1838.

Macropiper latifolium Miq. in Linnæa XX (1847) 130.

Methysticum Methysticum (Forster) Lyons. Plant Names 301, 1907.

It is to be noted that C. De Candolle in the Prodrômus vol. 16, part 1, page 354 (1869), and Hooker and Jackson in the Index Kewensis vol. 2, p. 142 (1895) quote *Macropiper Methysticum* Hook. and Arn. Bot. Beech. Voy. p. 96, as a synonym of this species. These citations are erroneous as Hook. and Arn. used the combination *Piper Methysticum*. There is a considerable difference of opinion among botanists as to the generic status of these plants, some retaining them in the genus *Piper* and others in *Macropiper*, the oldest name for which is *Methysticum* Raf.

Sylva Tellur, 85, 1838. Under this genus the first species above with synonymy as there given would be:

Methysticum Methysticum (Linné *filius*) Farwell (Nov. Comb.) and the other *Methysticum esculentum*, Raf.

Krameria.—*Krameria Ixina* Linné should be *Krameria Ixine* Linné. "Ixine" is an old generic name, and was used as a specific name by Linnæus in 1758. In the *Species Plantarum*, 1762, it appeared as "exina," perhaps a typographical error. "Exina" has been in general use, but the older spelling should be restored.

Kola.—Said to be derived from several species of *Cola* Schott and Endlicher. *Cola* is not tenable for this genus, there being several older names, the oldest being *Bichea* Stokes. The most important species yielding kola is:

Bichea acuminata (Beauv.) Farwell (Nov. Comb.).

Sterculia acuminata Beauv. Fl. d'Ow. 1 t. 24, 1804.

Bichea solitaria Stokes Bot. Mat. Med. II 565, 1812.

Cola acuminata Schott and Endl. Meletem. 33, 1832.

Leptandra.—*Leptandra* is said to be derived from "*Veronica Virginica* Linné." This plant is often considered to be generically distinct from true *Veronica* under the name of *Leptandra* Nuttall; the oldest generic name, however, is *Veronicastrum* Heister in Fabricius, 1759. The proper nomenclature, according to rules of priority, for the plants producing this drug is:

Veronicastrum Virginicum (Linné) Farwell (Nov. Comb.).

Veronica Virginica Linné Sp. Pl. 9, 1753, and *Veronicastrum Virginicum* (Lin. Farwell var. *Lanceolatum* Farwell (Nov. Comb.)).

Callistachya Virginica (Lin.) Raf. var. *lanceolata* Farwell Ann. Rpt. Mich. Acad. Sci. XVII, 176 (Reprint 1916).

Matico.—The drug is said to be obtained from the *Piper angustifolium* Ruiz et Pavon. The name is not tenable for this species, as it is the valid name for the species better known as *Piper consanguineum* Kunth. *Matico* is derived from *Piper granulosum* Ruiz et Pavon, which is the valid name for the species.

Melilotus.—Said to be derived from "*Melilotus officinalis* (Linné) Lamarck;" it should read *Melilotus Melilotus-officinalis* (Linné) Acherson and Græbner.

Oleum Aurantii, *Amari* and *Florum*.—The botanical origin should read *Citrus Aurantium* Linné; the "amara" between the words "*Aurantium*" and "Linne" is superfluous.

Oleum Bergamottæ.—The words "Linné" and "variety" or its abbreviation "var." should be inserted between the words "*Aurantium* and *Bergamia*;" Wight and Arnott described a variety not a subspecies.

Oleum Cardamomi.—The proper name for this is *Amonum Cardamomum* Linné. If the later generic name is to be used the correct citation would be *Elettaria Cardamomum* (Linné) Maton.

Oleum Myricæ.—The proper author citation for *Pimenta acris* is (Swartz) Kostel; not Wight.

Persio.—("Fam. Parmeliaceæ") should be inserted after "lichens."

Petroselinî Radix.—*Petroselinum Petroselinum* (Linné) Karsten is the valid designation of this product. *Petroselinum hortense* Hoffmann also has precedence over *P. sativum*.

Phytolacca.—The proper and valid name is *Phytolacca Americana* Linné.

Pimenta.—The valid designation for this is *Pimenta Pimenta* (Linné) Karsten.

Sassafras Medullæ.—The valid name for this product is *Sassafras Sassafras* (Lin.) Karsten.

Succus Citri.—The words "Linné" and "variety" or "var." should be inserted between "*Medica*" and "*acida*." Bonavia named and described a variety, not a subspecies. The word "*medica*" is a proper name derived from Media, and should be capitalized; also to distinguish it from "*medica*" referring to use as a medicine.

Terebinthina Laricis.—The proper designation of the species producing this drug is *Larix Larix* (Linné) Karsten.

Verbasci Folia.—Besides *Verbascum Thapsus* Linné, this drug is allowed to be derived from "other species of verbascum." Since the genus contains 200 or more species of wide variation in the physical, and probably in the therapeutic properties of the leaves, it would seem to be more appropriate to limit the drug to *Verbascum Thapsus*.

Xanthoxyli Fructus.—The generic name should be spelled with an initial Z instead of an X.

In order to restore the earliest family name used and to have them all end in "aceæ" the following changes should be made:

Fagaceæ	to Castaneaceæ	Labiataæ	to Labiataceæ
Moraceæ	to Lupulaceæ	Rubiaceæ	to Aparinaceæ
Polygonaceæ	to Persicariaceæ	Cucurbitaceæ	to Bryonaceæ
Euphorbiaceæ	to Tithymalaceæ	Compositæ	to Compositaceæ
Terebinthaceæ	to Pistaciaceæ	Leguminosæ	to { Leguminaceæ, Krameriaceæ Lomentaceæ
Rhamnaceæ	to Zizyphaceæ		
Sterculiaceæ	to Cacaocæ		
Araliaceæ	to Hederaceæ	Rosaceæ	to { Rosaceæ, Pomaceæ, Drupiferaceæ
Umbelliferæ	to Umbellataceæ		
Oleaceæ	to Jasminaceæ	Celastraceæ	to Arillataceæ
Loganiaceæ	to Strychnaceæ	Ericaceæ	to Monotropaceæ

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ON THE USE OF TRYPSIN PREPARATIONS.

BY J. H. LONG.

Trypsin preparations have found some use in medicine for many years, and mostly in the way of internal administration. This use is greatly limited by the low digestive value of the products that have been available up to the present time, which, with a few exceptions, have been weak.

In the manufacture of digestive ferments the production of trypsin has not kept pace with that of pepsin, the practical isolation of which on the commercial scale has reached a remarkable degree of thoroughness. Indeed, it seems now to be the custom among the leading manufacturers of pepsin to make first a prod-

uct of far greater strength than that required by the Pharmacopoeia and dilute it down to a constant value, as needed, by the addition of some inert substance.

Nothing of the sort has happened with trypsin. A very limited number of manufacturers, here and abroad, have attempted to put on the market a reasonably strong product under the name of trypsin, but many so-called pancreatins have been made, the activity of which is amylolytic rather than proteolytic. The assay method of the Pharmacopoeia is directed practically to the determination of the starch-converting power of the pancreatin, while the milk peptonizing test is merely a limit test, and a very unsatisfactory one at that. A stimulating service might be rendered if the Pharmacopoeia were to call for a more stringent proteolytic test than the alteration of the casein in 400 Cc. of milk by 0.28 Gm. of pancreatin in half an hour. The test is based on the assumption that market milk contains 3.5 percent of casein, which, however, is not the case, as milk is now produced for fat value rather than for total solids or casein. With the average market milk compliance with the test would simply indicate that one part of pancreatin is able to convert about 40 times its weight of casein to the stage where it is not coagulated by acetic acid, and this is a low requirement because only superficial alteration of the casein is required to exhibit this change in behavior.

The practical value of the great mass of these pancreatins is questionable, because of their low degree of activity. Of the actual concentration of the pancreas enzymes in the intestine we know but little and it is possible that there are times when the ingestion of the ferment might be of great service. Of the limited use for pepsin there can be no doubt, since abundant observations of stomach contents in recent years have shown that the ferment is practically always present. The lack of acid is far more frequent. But failure in the proper functioning of the pancreas, as far as the secretion of ferments is concerned, is not rare and hence the therapeutic use of commercial ferments.

This brings up the question of the administration, which, from several points of view, is an important one. To be of use as aids in intestinal digestion pancreas ferments given by the mouth must pass through the stomach. It has been long held that trypsin and amylopsin suffer deterioration or even destruction in contact with the gastric secretion through the action of acid and pepsin. This view seems to be based largely on statements of Kuehne and other earlier workers and it is only in recent years that the question has been more closely studied. In our laboratory much attention has been given to the problem and the following facts have been brought out:

a. It is necessary to distinguish between the action of acid alone on trypsin and acid plus pepsin.

b. When digested at body temperature with low concentrations of hydrochloric acid trypsin is practically not much weakened, even when the duration of the incubation is extended through an hour, with the concentration of the "free" acid from 0.2 to 0.3 percent.

c. The case is very different, however, with pepsin present. Acid and pepsin working together on trypsin have a marked weakening action which may be easily shown by experiment.

d. But if the action of the pepsin and acid on trypsin is allowed to take place in the presence of a sufficient amount of protein the destructive effect is much less

marked and a large part of the trypsin may be left little diminished in strength, and capable of further action under proper conditions.

The explanation of these differences is simple enough. Protein is not the inert neutral substance the earlier physiologists assumed it to be, but, because of its peculiar structure, may be very active in binding either acid or alkali. A gramme of egg albumen or meat protein will hold 60 milligrammes or more of hydrochloric acid in amino acid salt combination. When protein is mixed with not more than 3.5 percent of its weight of acid in aqueous solution, pepsin present will have almost no effect in the way of digestion; with 6 percent the digestion is slow, while with 10 percent the digestion is rapid, provided the dilution is such as to not lower the hydrogenion concentration too much. A certain value of the hydrogen concentration is necessary for the activation of pepsin and if this does not obtain, protein will not be digested nor trypsin destroyed by the combination of acid and pepsin.

From this it would appear that trypsin administered by the mouth might readily persist in the stomach and pass through into the duodenum. Under certain limited conditions this is true, but a proper balance between acid and food protein would have to hold. In the absence of the right amount of protein the acid and pepsin would destroy much of the trypsin and the same thing would hold for the amylopsin.

With these facts in mind it must certainly appear irrational to administer the shot-gun combination found in a number of mixed ferment preparations which seem to be put together without much regard to the work supposed to be accomplished by them. I cannot agree with Mr. Beringer in his defense of the formulas of the National Formulary III.¹ In the Compound Elixir of Pepsin we have along with 10 Gm. of pepsin, 1 Gm. of pancreatin, 1 Gm. of diastase (whatever that may be practically), and 1 Cc. of hydrochloric acid with approximately 360 mg. of the real acid. As the protein of the pepsin is often pretty fully saturated with acid this combination is such that the activity of the trypsin and amylopsin would be greatly impaired by the mixing operation. But worse than this is the small proportion of the pancreatin present. In the finished product there is a milligramme to the cubic centimeter, while the dose is 8 Cc. This mixture may have some value as a pepsin product or as a vehicle, but the "compound" part of it is utterly absurd. Mr. Beringer complains that it was dropped from the National Formulary. It should never have been in there to begin with, because it is irrational. The Compound Powder of Pepsin is nearly as bad. While the dose of pancreatin provided for is greater, it is still too low to have therapeutic value, and the acid, not finding enough protein to bind it properly, would unquestionably weaken the ferments other than the pepsin on standing.

Mr. Beringer finds fault with the American Medical Association because it condemns such mixtures, which he seems to think should be retained since they were extensively prescribed. This is not a sound argument. In the last two thousand years many things have been extensively prescribed which had no value whatever, and alas! this ignorant prescribing is still going on.

These mixtures, and similar ones, have been condemned because the amounts of trypsin or other pancreas ferment they contain are far too small to have any appreciable therapeutic value, even supposing the trypsin and amylopsin in them

¹ JOURNAL A. PH. A., April 1917.

to remain active, which under the ordinary conditions of prescribing is extremely doubtful.

Trypsin is indeed more stable in presence of acids than was formerly supposed, as several series of investigations from this laboratory have shown. But the practical conditions under which it can pass the stomach have to be carefully observed, and when administered at all this should be with the fewest possible complicating conditions. A few milligrammes of trypsin can have at best but a vanishing effect. Large doses given at the right time may reasonably be expected to have therapeutic value, and prescribing should naturally have this end in view. As made at the present time, the pancreatins and their various combinations have no proper place in rational medicine, as proteolytic agents. There is here great room for improvement.

ASSAY OF GLYCERIN.

A BELATED CORRECTION.

BY A. B. LYONS.

Three years ago F. T. Bradt read a paper before the American Pharmaceutical Association, published in their JOURNAL, January 1915, proposing a simplified form of the Hehner assay for glycerol. Hehner had employed as an oxidizing agent a volumetric solution of potassium dichromate made of such strength that one mil corresponded to exactly 0.01 Gm. of glycerol. It contained therefore in each liter "about" 74.86 Gm. [theoretically 74.567 Gm. ($O = 16$)] and 150 mils of strong sulfuric acid. The strength of the solution was adjusted by titration against a volumetric solution of ferrous ammonium sulfate.

The assay was made by placing in a clean beaker an accurately weighed portion of the sample (about 0.4 Gm.), adding 50 mils of the volumetric dichromate solution together with about 15 mils of strong sulfuric acid, covering the beaker with a watch glass and heating two hours on a boiling water-bath. The excess of dichromate was then determined in the cooled solution by titration with a volumetric solution of ferrous ammonium sulphate, after which calculating of the amount of glycerol was a simple matter.

Mr. Bradt's suggestion was to use for the oxidizing agent the official potassium dichromate V. S., of which one mil will correspond with 0.00065757 Gm. of glycerol. The excess of dichromate was determined by adding to the solution potassium iodide and titrating the iodine set free with sodium thiosulphate V. S. The directions for the assay are in detail: weigh out accurately five grammes of the sample of glycerin, dilute with distilled water to exactly one liter, and take for titration exactly five mils of the solution (equivalent to 25 milligrammes of the sample). Add 50 mils of tenth-normal potassium dichromate V. S. and 25 mils of strong sulphuric acid and heat in a suitable flask twenty minutes in a steam bath. Cool, add 1 Gm. potassium iodide (free from iodate); after standing ten minutes dilute with 100 mils of water and titrate the liberated iodine with tenth-normal sodium thiosulphate V. S.

Subtract the number of mils of the thiosulphate solution required from 50, multiply the remainder by 2.6303 for percentage of glycerol in the sample. (This

factor = $0.65757 \text{ mg.} \div 25 \times 100$.) Thus, if 13.5 mls of the thiosulphate V. S. were required, $50 - 13.5 = 36.5$ and $36.5 \times 2.6303 = 96.006$, the required percent of glycerol.

It would not be necessary to go into this detail were it not that an unfortunate error occurred in Mr. Bradt's paper. The directions there were to weigh out five grammes of the glycerin and dilute to 100 mls instead of 1000 mls. Five mls of this diluted glycerin, it was stated, were equivalent to 25 mg. of the original sample. Plainly there was a discrepancy, but whether it was the 100 mls or the 25 mg. that was in error did not appear, and in absence of any statement in the paper about the quantity of glycerol corresponding with 1 mil. of deci-normal potassium dichromate, one could not safely hazard a correction.

An abstract of the paper was published in the *Chemical Abstracts of the American Chemical Society*, in which the abstractor ventured to correct the obvious error by changing 25 mg. to 250 mg. Mathematically he was right, but any one attempting to use the assay process would have condemned it offhand or else wasted time in studying out the reason why the process would not work. The same would have been true, of course, if any one had attempted to follow the original directions.

Another abstractor for the Year Book of the American Pharmaceutical Association (Vol. IV, p. 271) quoted Bradt's directions as given in his paper, without noticing the discrepancy.

The assay as applied to samples of glycerin free from readily oxidizable impurities is trustworthy, in spite of the very small quantity of material used, and is very easily and quickly made. I incline to think that it can also be used with suitable modification for determining the glyceryl of glycerophosphates. That, however, is another story.

A NEW REAGENT FOR ALDEHYDES.

Fazi, in an Italian contemporary, gives the details of a new reagent for aldehydes, which allows the detection of the most minute quantities of a number of these compounds. It will detect 0.0078 mg. of benzaldehyde, 0.019 mg. of vanillin or 0.006 mg. of furfural. It will not, however, effect more than a group separation so that it can hardly be said to detect given aldehydes.

The reaction is as follows: To the aldehyde in chloroform solution, two or three drops of a chloroformic solution of acenaphthene are added and then with care 1 Cc. of concentrated sulphuric acid. A green ring changing to red-violet is formed in the presence of the aldehyde. If the tube is shaken, the sulphuric acid is colored green and then red-violet.

This reaction is sufficient to discriminate between aromatic and aliphatic aldehydes since the latter do not give any coloration. Formic and acetic aldehydes, for example, give white precipitates which consist of condensation products. Aldoses and carbohydrates containing an aldehyde group which yield furfural or aromatic aldehydes on treatment with cold concentrated sulphuric acid also yield the reaction. In the case of lactose (sugar of milk) the green color appears at the end of a few minutes and passes to violet in about 40 minutes. Maltose reacts more slowly than lactose.—M. in *Jour. Ind. and Eng. Chem.*, Sept. 1, 1917, p. 906.

SECTION ON EDUCATION AND LEGISLATION, AMERICAN PHARMACEUTICAL ASSOCIATION

THE UNITED STATES PHARMACOPOEIA AND NATIONAL FORMU-
LARY AS TEXT-BOOKS IN PHARMACOGNOSY.

BY W. F. GIDLEY.

Pharmacognosy is taught in every school of Pharmacy under one name or another and in all degrees of intensity. In some we find its principles given under "Pharmacology," in others under "Materia Medica," while in others we find it under its own name, but compounded frequently with therapeutics, posology, and toxicology. That some confusion exists between certain of these terms becomes at once apparent when we compare their definitions in standard books on materia medica, on pharmacology, on pharmacognosy with the *Pharmaceutical Syllabus*. According to the latter pharmacognosy is the "art of identifying, selecting, and valuing drugs." In its teaching we include these and usually several other things.

"The study of synonyms is one of the most important departments of pharmacognosy," says Dr. Kraemer in his excellent and comprehensive "*Scientific and Applied Pharmacognosy*." The knowledge of the source of drugs is not necessarily implied in their identification, but usually taught under pharmacognosy. Points of historical interest concerning drugs should certainly be given in a course in Pharmacy, and these are in part at least usually taught under this same heading. Historical points are made also, of course, in chemistry, therapeutics, toxicology, and other branches.

To establish the identity of a drug as being official we must have accurate and concise definitions of the official drugs—accurate macroscopic and microscopic descriptions. These descriptions, together with identification tests, purity tests and assay processes, give us our basis for the selection and valuing of drugs.

In the U. S. P. and N. F. we have, as all know, correct Latin titles, English names, abbreviations, and synonyms of drugs; their definitions, concise and mainly accurate (see criticisms of botanical authority by Farwell in *Druggists' Circular*, April 1917), family names, biological classifications, purity rubric, macroscopic descriptions of true whole drugs, macroscopic and microscopic descriptions of true powdered drugs, identification tests, purity tests, assay processes, limits of impurities, limits of normal ash contents, and a list of the preparations into which the drug enters. Is not this the information required in the "art of identifying, selecting, and valuing drugs," that is, in pharmacognosy? Certain important points are missing, it is true, for pharmacognosy as "she is taught." These might be supplied in the lectures by the professor in charge.

Careful attention must be given to chief constituents. This knowledge is required for correct valuing as well as being indispensable in pharmacology. Supplement the above also with information of historical value, of methods of collection and preservation of drugs, and you have covered the field of pharmacognosy as given in many colleges of pharmacy. A specific illustration seems unnecessary.

It is contended by some that, with the bulk of this information in the U. S. P. and N. F., the student of pharmacy should not be required to purchase an additional text-book for pharmacognosy.

The trouble with the U. S. P. and N. F. as text-books is that they were never intended as such, nor are they arranged in presentable form and are pedagogically incorrect. It is like studying botany out of the dictionary. It may be all there, but—!

Again, text-books in pharmacognosy are usually complete, and describe and illustrate, as a rule, the official drugs and all those numerous and often interesting unofficals, "post officials," and therapeutic aids.

Students are all too prone to try to get along with the minimum of required information. It is often advisable to have the limits of such not too closely confined.

That the expense side of the question deserves some consideration is perhaps true. Be that as it may, the writer believes in an extra, or "additional" text-book for pharmacognosy. Its selection should be a matter of considerable concern. The U. S. P. and N. F. give no illustrations and these are of very great value in teaching this subject, particularly the microscopic side of it, and may be supplemented as much as possible. The text-book should be illustrated.

There can be no doubt that the U. S. P. and N. F. descriptions are clear cut and concise and their tests, etc., usually limited to the worthy only. These books cannot be pushed aside in pursuing pharmacognosy, but they fail to serve as teachable guides in the subject. Then let them find their true place, so far as pharmacognosy is concerned, as most excellent reference works, and not be used as exclusive text-books for that study.

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FALLACIES IN POPULAR PSYCHOLOGY OF SALESMANSHIP.*

BY CHAS. O. LEE.

The best psychology is the exercise of courtesy, alertness and good judgment and it promises reward to the man who never forgets it.

About 100 years ago the empirical system of psychology, known as phrenology, was formulated by Gall, and developed by his followers, especially Spurzheim and Combe. Gall claimed, that with him, it was the result of a series of independent observations which he began by correlating the outward appearances and mental qualities of his schoolmates. Though Gall claimed to have originated this system, it is only a modern expansion of an old empirical philosophy and its parentage is easily traced.

The development of phrenology followed the discovery of the localization of sensory and motor functions of the body, in particular regions of the brain. Enthusiasts ignored the fact that these particular brain areas simply controlled other parts of the body as eye, ears and limbs, and jumped at the conclusion that every trait of character, every mental aptitude, every virtue, every vice, ability, interest

* Read before Section on Education and Legislation, A. Ph. A., Indianapolis meeting, 1917.

and capacity each had its own pew in the brain area. An index to the destinies of men, their fitness and propensities, their appropriate choice of work and play surely had been found.

This new system of psychology did not keep the slow pace of scientific progress, nor was it directed toward further legitimate inquiry. But the prophets hastily drew minute and complicated maps of the surface of the cranium and assigned to each recognizable patch some "faculty." The brain, form of skull and physiognomy of many persons, whose mental characteristics were more or less fully known, were examined and, from these, very definite conclusions regarding the localization of particular mental faculties, were drawn. Some of Gall's earlier studies were made among low associates and in lunatic asylums, and from predominating manifestations of these subjects he mapped out areas of murder, theft, etc. These phrenologists even went so far as to say that the sizes of such areas in the brain could be determined by a study of the external configurations of the skull.

In this movement Gall and Spurzheim overestimated the significance of casual observations. They used their data uncritically and the psychological basis of their generalizations was unfounded and faulty. As a result the alleged science of phrenology is now discredited and professed to-day only by ignorant charlatans. Thus arose phrenology one of the most persistent fallacies of modern vocational analysis.

Modern psychology recognizes that the mind cannot be subdivided into any such distinct faculties as the phrenologist used, and modern neurology finds no basis for the sharply defined localization of these or any other mental functions, in the sense that a specific cortical area is the exclusive area of a particular mental element. While the application of an electric stimulus to a spot upon an exposed brain may cause the contraction of a muscle in the hand or leg, traits of character and types of ability find no such areas in the brain.

Furthermore, it has been found that these sensory-motor areas are not exclusive in their functions, but that every part of the cerebral cortex is in direct or indirect connection with every other part. It also has been found that if one of these areas for some cause is removed, that in time its function will be taken up by some other part of the brain. Such experimental evidence is certainly in opposition to such specific localizations as phrenologists make.

While the inner surface of the skull is moulded on the brain, and the outer surface of the skull approximates it, yet the parallelism is sufficiently variable to render conclusions, therefrom uncertain. Malformations often alter the skull shape considerably while it affects the relative development of the parts of the brain cortex but little. These and other reasons of like kind should lead phrenologists to be careful in predicting brain development from skull shape. Psychology, physiology and experience alike contribute to discredit the practical working of the system and to show how worthless the so-called diagnoses of character really are.

There is also the pseudo-science of physiognomy or the belief that many mental and moral characteristics betray themselves in special facial items, such as the shifting eye, heavy brow, large lips, thin lips, the shoulders, the neck, the arms, the stride, together with other such characteristics of the body as concavity or

convexity of the profile, shape of jaw, skin texture, color of hair and eyes, etc. So in reading character practitioners no longer depend upon cranial geography alone but resort to this confused mass of fact and fancy.

We are therefore led to make the following statements to show why the so-called science of phrenology and physiognomy are unscientific and unsound and afford no reliable means of analyzing character:

1. Anatomically the brain cannot be divided into such areas each with a special function as was done by Gall and Spurzheim.

2. Our feelings, emotions, impulses, etc., are not governed by local cortical areas as these phrenologists argued.

3. "That by cranial measurements alone it is impossible to determine with certainty the race, age or sex of an individual or even indeed whether he was a prehistoric savage, an idiot, or a gorilla."

4. That the shape and thickness of the skull bones gives little indication as to whether brain tissue or supporting tissue lies beneath a protuberance or depression.

5. That sparse and casual observations of striking cases are not sufficient grounds for generalizations.

Despite the fact that these so-called scientific methods of character reading have been discredited, there is a great flood of just this kind of unscientific and worthless material to be found in many of the popular books upon the subject of salesmanship. The subject matter is usually presented under such attractive titles as "human nature," "analyzing the customer," "character analysis," "psychology of salesmanship," and other titles of a similar nature.

One of these books says that scientists divide individuals into three general types—the motive, the vital and the mental types. Persons of the motive type are described as having "oblong faces, high cheek bones, large bones and bodies showing a tendency towards angularity." "Such people do not want to be troubled with details." "Salespersons waiting upon them must keep themselves keyed to a high degree of nervous tension." "Rapid action is what is called for, and arguments must be used which give not only the practical uses of goods but those qualities which guarantee service." "The name vital is given to the second type because of the preponderance of vital or nutritive organs." "Customers of this type are impulsive, enthusiastic, cheerful and lovers of fresh air and exercise, but frequently are very changeable and fickle. Salespersons can easily lead them." The mental type derives its name from the great activity of the brain and nervous system. The head is relatively large as compared with the body. The face is oval, with a high broad forehead." "Customers of this type think quickly. They possess refined feelings, have excellent tastes and possess great love for the beautiful." "With customers of this type the requisites are for the salespersons to know their goods thoroughly, and be able to express their selling points in correct and forcible English."

The same author goes on to say that "the types are found in many combinations. It is a rarity to see a person showing the marked characteristics of one type to the exclusion of the other two. The great majority of people have marks of each, with a preponderance of one over the others." Another author says that a salesperson should be able to determine the preponderating characteristics of

any particular temperament in any individual at a glance, and in almost the same paragraph says that there are nearly as many temperaments as there are persons, that each one has some modification, or a temperament of his own.

In another one of these works the face is analyzed in about the following way as to shape: a square face ordinarily indicates firmness; an oval face indicates imagination, flexibility; an oblong face indicates melancholia, weakness; a round face indicates a person of sensuous or animal nature. In a like manner the chin was analyzed: the pointed chin indicates acuteness or craftiness; the round chin, benevolence; the angular chin, firmness; the small chin, timidity; a flat chin, a cold disposition. The eyes, the eyebrows, the nose, the mouth, the hands, the hair and skin are in like manner commonly analyzed. Not only are such generalizations worthless and useless, but they are so general within themselves that their value is lost if they ever had any.

Page after page of this fallacious so-called psychological material could be cited and it would all be of the same kind and character. We have already pointed out the fallacy of trying to judge the mind of man by means of phrenology and physiognomy, yet this same lot of material appears and reappears, with little change, in book after book upon the market to-day. There is no scientific test by which a man's moral or mental qualities can be determined. We cannot directly observe what is going on in the mind of another. The mental processes of another can only be inferred from his acts, his looks or his words; even then we get lost in a great crowd of exceptions.

We are therefore forced to admit that the formulated facts of physiognomy are unsupported, contradictory and extravagant and do not warrant our consideration. If we are willing to base our expectations of human conduct upon physiognomy we must prepare to meet delightful as well as fearful surprises. This is quite in opposition to the effort to make character reading an exact science. In salesmanship individuals cannot be handled upon the basis of a common psychology, for there are nearly as many variations as there are individuals. Moreover, recent researches show that a large part of our facial expressions are acquired by unconscious imitation of those of others, which is in opposition to the theory of the correlation between mental faculties and facial expression.

Schneider attempted to verify the principles of physiognomy by actual tests. He selected a group of money-making executives and charted their characters according to phrenology. He found that the men who had the characteristics of good executives were anything else than good executives. A number of these tests gave negative results and he was forced to conclude that physiognomy was not a reliable way of judging ability of men. The mere facts of physical structure, contour, shape, texture, proportion, color, and the like, yield no more information concerning capacity interests of persons than did the old incantations of the primitive medicine man or the absurd chart of the phrenologist.

In the light of modern knowledge, phrenology, as well as physiognomy, is bad psychology and is bad neurology. Modern psychology does not regard the mind as a bundle of faculties, and therefore it cannot be mapped out into 32 or 42 odd areas that correspond with such "affective propensities" as animateness, combativeness, and constructiveness or with such sentiments as self-esteem, benevolence, hope and wit. "Phrenology then, as practised, may be classed with the other

quack sciences such as astrology, palmistry and physiognomy," none of which are worthy of being mentioned, and much less associated, with psychology.

What then can we say about psychology of salesmanship? The soldier can use the same weapon upon every enemy but the personal element that comes in between customer and clerk destroys the use of any such mechanistic procedure. While sales processes cannot be reduced to any set lines of action, we believe, however, that there is a real good sound psychology, possibly better understood as good business courtesy, tact and judgment, which every salesman must exercise if he wishes to be successful. That is the ability to so atune himself with every customer, finding a common level somehow, so that the customer at least feels satisfied with the salesman's services. There is no prescribed way of doing this. Each customer is an individual and must be dealt with as such. A customer does not come into a store for phrenological or physiognomical analysis, which no salesman is able to give and which would be useless if he could. Neither does a customer wish to be viewed with a "hawklike" eye nor does he care for any contortionistic poses in an effort to present goods or packages at certain angles. The best psychology is the exercise of courtesy, alertness and good judgment and it promises reward to the man who never forgets it.

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DR. FRANK CRANE'S COMMANDMENTS OF SALESMANSHIP.

1. Be Agreeable.—Other things being equal, I go to the store where the clerks try to please me. I buy clothing, typewriters and automobiles of the man who acts as though he likes me. Exert yourself to make a pleasing impression on me, please. I appreciate it. Hence, dress well. Untidy clothes mean you don't care what I think of your appearance. But don't dress too well. That gives you an air of showing off. Dress just right. If you don't know how, find out. Cultivate a pleasing voice. Learn to converse entertainingly. Cut out all mannerisms. Give me the impression of a gentleman, honest, square, anxious to please, and good-natured.

2. Know Your Goods.—Don't let there be any question I can ask you relative to the manufacture, history, distribution, or uses of what you have to sell that you cannot answer. If you are selling typewriters, know all about all the kinds. If you're selling coffee, find out all about where all sorts of coffee come from, and all the points about them. Put in your spare time making of yourself an encyclopedia of information about your goods.

SECTION ON COMMERCIAL INTERESTS, AMERICAN PHARMACEUTICAL ASSOCIATION

NET PROFITS AND THE AVERAGE SALE.*

BY CLYDE L. EDDY.

The cost of doing business in the average retail drug store amounts to approximately 25 percent of the total cash receipts. Out of every dollar taken in almost 11 cents must be paid out for salaries; 5 cents for general expenses; 4 cents for rent; and $1\frac{3}{4}$ cents for advertising; while another 4 cents will fail to appear in the net profit column because of the incidental expenses of insurance and taxes, heat and light, deliveries, depreciation and shrinkage, supplies, and bad debts. The item of "overhead expense" is a very real part of the cost of selling merchandise and should be so considered when determining upon retail prices and in figuring profits.

The smooth-talking salesman who explains that an item which costs the dealer 50 cents and sells for 75, nets him a profit of 50 percent, is figuring profit, and gross profit at that, on the cost price and is either deliberately misstating facts in order to create a sale or is ignorant of the fundamentals of retail selling. Twenty-five cents is 50 percent of the cost price but is only $33\frac{1}{3}$ percent of the selling price, so instead of making 50 percent gross profit only $33\frac{1}{3}$ percent gross profit is made and, after deducting 25 percent for overhead expenses, only $8\frac{1}{3}$ percent remains—quite a different figure from the one set by the salesman.

Let us analyze an average transaction in an average drug store, for instance, the sale of any standard advertised proprietary remedy which, intended to retail at \$1, sells at the cut price of 85 cents.

In this transaction the retailer suffers an initial loss of 15 cents because of cut prices, that amount being retained by the customer. The remaining 85 cents, the actual selling price, passing through the hands of the salesman, finds its way into the cash register and is distributed somewhat as follows:

DEMONSTRATION.

Sixty-five cents pays the cost of the merchandise, leaving 20 cents as gross profit from which he must pay overhead expenses amounting to 25 percent of the selling price, as follows: salaries, 9.30 cents; general expenses, 3.81 cents; rent, 3.41 cents; advertising, 1.49 cents; insurance and taxes, 1.02 cents; heat and light, 0.58 cent; and here we discover that there remains but 0.39 cent to pay for the cost of deliveries, depreciation and shrinkage, supplies, and bad debts, amounting in all to 1.28 cents, leaving a deficit of approximately 0.89 cent, which must be paid and since we have no other source available we must withdraw that amount from the bank. In other words, instead of making a profit on the sale of the average advertised article selling at a cut price, we actually lose money on every such transaction.

If such sales were unusual we could perhaps afford to pay little heed to them, but they occur many times every day and the situation is so serious as to merit our most careful study. We cannot long afford to do business at a loss and since a considerable proportion of our retail sales bring us little or no profit we must

* Read before Section on Commercial Interests, A. Ph. A., Indianapolis meeting, 1917.

cast about for a means of transforming unprofitable into profitable business. The problem is, "What shall we do about it?" and the apparent answer is, "Sell the customer what he comes in to buy and, in addition, sell him some other item—one that nets a good margin of profit.

Suppose, for instance, that the customer who purchased the advertised item in the transaction just described is shown a special hair brush, retailing for \$1, and purchases it—that dollar will be distributed as follows:

DEMONSTRATION.

In the first place, there is no loss from cut rates and the dollar reaches the cash register intact. Fifty cents of it will suffice to pay the wholesale cost, 50 percent representing the usual margin of profit in the sale of sundry items of this kind; it is not necessary to add anything to the cost of salaries, because the same sales-

man who sold the first item also sells the second; the general expenses are not affected by this additional sale; the rent remains the same; the cost of advertising may, because of the cost of show cards and window displays, advance a fraction of a cent, and we shall make a liberal allowance here of an entire cent; the cost of insurance and taxes remains unchanged; no more heat and light is required; there is actually less loss from depreciation and shrinkage when such additional sales are made, because they increase the number of turnovers, prevent loss from deterioration, and reduce the amount of capital invested—but we will permit the figure to stand as it is; the cost of deliveries may advance 1 cent and we shall allow for that; more paper and



twine will be required to wrap the parcel because of its increased size, thus increasing the cost of supplies, and we shall deduct another cent from the gross profit to cover that; and, finally, because these additional sales are usually made to cash customers, there is little or no increase in the loss from bad debts, but we shall generously provide 1 cent here for possible additions to the list of uncollectable accounts. Now, with the cost of the merchandise paid and every item of overhead expense taken care of, we find we still have 46 cents which is net profit and, because there is hardly a better place to put it, we shall put it in the bank. Selling the additional item has transformed an unprofitable sale into a profitable one and has added materially to our cash balance in the bank.

THE AVERAGE SALE.

Not many retail druggists know the amount of their average sale. In a certain large chain of drug stores in the East the average sale is 30 cents to each customer, while a Western chain, after devoting years to training its salesforce, improving the quality of its merchandise, and perfecting its store service, has advanced the figure to 49 cents. The average in the United States is 35 cents and the lowest figure compatible with safety is 25 cents. It has been pointed out that

if every salesman in the chain system referred to above with a sales average of 30 cents, should sell only 10 cents more to each customer, that is, increase their average sale to 40 cents, it would result in an increase of eight and one-half million dollars in the annual gross receipts of the corporation and would add almost four million dollars to the net profits of the year.

Any increase in the amount of the average sale has a direct and pleasing influence on the figure representing the net profits and the things to be done to increase this amount are, briefly, to sell the largest sizes of articles asked for; talk quality rather than price; suggest "running mates;" sell additional items; improve our advertising and display methods; and perfect our store service.

SALESMANSHIP.

The fine theories of salesmanship go to pieces in a small store. Sales cannot be forced and suggestion must take the place of compulsion.

In this the larger store, catering to transient trade, probably has an advantage because it can and does force many sales, but where the large store must depend almost entirely upon salesmanship to sell the merchandise, the average small retailer can build up an actual clientele through sheer personality.

The optimist makes the best salesman; he smiles more readily; his "good morning" is more spontaneous, and his entire frame of mind encourages the customer to spend his money. It is easier to give up hard earned dollars to a man who smiles and seems glad to get them than to one who is gruff and barely even thanks you for them.

The first requirement of a good salesman, taking the good nature for granted, is a thorough knowledge of the goods he is selling. Many people, especially when buying drugs, want the "boss" to wait on them, because they think he knows more about the items than the clerks do, and he usually does. It is a serious mistake, therefore, for the owner to withdraw himself from the front of the store and permit the candy girl, the soda water man or a clerk to meet the people that he should meet himself. Customers in a drug store do not want to talk drugs to the candy girl, and the soda water man is out of his element selling medicines.

Every customer should be greeted with a courteous "good morning;" "good afternoon;" or "good evening;" and a genuine smile should accompany the salutation. Such expressions as "what's your's?" "is there something I can do for you?" and "something for you?" should not be tolerated in stores of the high professional standing of the modern retail drug store.

It is neither possible nor advisable to here discuss the many elements requisite to successful retail selling and rules which apply in large stores frequently do not apply in small ones; no salesman can be a machine and be successful—he must be tactful, he must know how to make a sales opening without offending his customer; he must know when to make such openings; and, more than all, he must know when to say nothing. There are, however, a number of rules which apply in all stores, as follows:

First. Step forward when a customer enters the store and greet him with a smiling "Good morning," "Good afternoon," or "Good evening," as the case may be, and if he does not then make his wants known, add "What may I do for you?"

Second. Look your customer in the eye and give him your undivided attention.

Third. If you notice a customer waiting and you are busy, do not ignore him, but nod to him and say pleasantly, "In just a moment, please." It will keep him waiting, patiently.

Fourth. If you notice a customer and do not know whether he has been waited on or not, say, "Pardon me, have you been waited on?"

Fifth. Never correct a customer's pronunciation nor laugh at his error. If a drug is called for by an unusual name, see that the package bears that name. It is permissible to label cascara bark as such, but if the customer has asked for sacred bark see that that name also appears on the label. Educating the public in the correct names of drug plants, etc., is rather too much of a job to be undertaken by the retailer.

Sixth. Turn the label down when wrapping medicines of a private nature; the customer does not always want his neighbors to know what he is taking.

Seventh. Do not make extravagant promises, and see that all promises made are kept.

Eighth. Place the change in the customer's hand; never lay it on the counter; and do not hand the package to the customer until he has had time to put his change away.

Ninth. Always say "Thank you" at the close of a transaction and a courteous "Call again" is in no way amiss.

Always talk quality rather than price and make it a rule to show the larger sizes of articles asked for rather than the smaller. When a customer asks to look at dressing combs do not say, "What price?" but show her a tray of combs at prices ranging from \$1 to \$2 and if that is more than she wishes to pay she will probably tell you at once the kind of comb she wishes. If she seems interested it is good policy to show her something better as well. There is less possibility of offending a customer by showing her the better grades than the cheaper and it is always easier to "come down" than to "go up" on the price scale.

When the customer asks for a bottle of spirit of camphor do not say, "What size, five or ten?" say rather, "Yes, Madam, we sell one ounce for 10 cents and three ounces for 25 cents." Let them know the advantage of buying the larger size; forget that you sell anything of the kind in such small quantities as 5 cents worth—and give the customer a chance to forget it.

One of the best ways to increase the average sale is to sell a "running mate" with every item that is sold. We are apt to forget that the man who purchases a new tooth brush might also be in need of a tube of dental cream, and he too is apt to forget it unless we call it to his attention. We cannot talk "running mates" as aggressively in the small store as in the large one and not infrequently an attractive display must suffice but a suggestion of styptic pencils with sales of shaving soap; of chamois skins with face powder; and envelopes with writing tablets will not be out of order in any store. The man who failed to suggest films with a camera sale was probably more negligent than tactful.

An energetic salesman in a chain store will sell a "special," consisting of a box of paper and envelopes marked at 39 cents, to every eighth customer day in

and day out; to some he will sell as many as three boxes, and he may have a run of 25 or 30 unsuccessful attempts but the average of his successes will be about one in eight.

Selling an additional item is largely a matter of calling the customer's attention to some special value *after the article the customer came in to buy has been sold and disposed of*, suggesting its timely value and stating its price, but it should be remembered that it is not good policy to attempt too much vocal salesmanship in a small store; tact and good judgment must be employed and the fact borne in mind that many people trade at small stores for the sole purpose of escaping the aggressive sales policy of the larger ones. Attractive displays must be largely relied upon to create this extra business.

DISPLAY AND ADVERTISING.

Neat displays of seasonable merchandise in the windows and on the counters in the store will prove potent sales makers. They will suggest wants and argue quality and price in a way that can offend no one, at the same time supplying openings for tactful sales talks. The display method of advertising is of more importance to the small store than to the large one—in the former it sometimes provides the only available means of creating extra sales while in the latter it is exceeded in importance by the more productive vocal sales argument.

Time does not permit of a description of window and counter display methods and perhaps enough has already been said on that subject but I would say that the show windows, particularly of the small store, should be used continuously and effectively and that there should be attractive displays of seasonable merchandise on practically every show case in the store.

COURTESY AND SERVICE.

Courtesy goes far toward making and keeping customers and the unfailingly courteous service of a well-managed store has more to do with the success of that store than one would imagine. An offer to wrap several small packages together, wherever they may have been purchased, frequently adds names to one's list of regular customers. A woman entering the store with half a dozen poorly wrapped packages and leaving it with one large, neatly wrapped bundle with a handle on it is an asset to that store—worth many dollars spent in advertising.

A request for a cork, a sheet of writing paper, or an almanac, should be welcomed. It provides an opportunity to make a friend for the store—or to lose one. Be pleased, and show it, to look up addresses in the directory or to direct people to those addresses. The 5-cent customer and the woman buying stamps are sometimes trials, but they should receive the same courteous attention accorded the \$5 customer. Selling stamps has become one of the "businesses" of the drug store and should be done in an efficient manner and the 5-cent customer of to-day may become the \$5 one of to-morrow.

Increasing the average sale helps to increase the total sales—the gross profit and the net profit. It lowers the cost of operation, the controllable expenses and the advertising expense. It helps to cut down overstock, increases the sale of profitable merchandise, increases the number of turnovers and improves the store service. Every dealer should know the amount of his average sale and there should be a determined effort to keep that figure well above 40 cents.

WOMEN'S SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

SOME SOCIAL SERVICE ASPECTS OF THE HOSPITAL.*

BY MISS BERTHA OTT.

Social Service—the term is scarcely a generation old; the idea underlying it is as old as Christianity, and is the acknowledgment of the fact that “man is his brother’s keeper.” Down through the centuries the Christian hospitals have developed and carried on the great works of Christian charity. The great truth of the social source of disease is not a new nor a startling discovery; it is merely its recognition as lying within the duty of a hospital to combat, that marks a forward step.

Florence Nightingale saw that disease must be combatted by home influence and extraneous help as well as by medication. She impressed this upon her friend Dr. Elizabeth Blackwell, who, when she founded the New York Infirmary for Women and Children in 1859, made home visiting and instruction of mothers a part of the hospital’s functions.

The honor of the introduction of Social Service as a recognized hospital department belongs to Massachusetts General Hospital in Boston. In 1905 a nurse with some settlement experience was installed in the Out-patient department by Dr. Richard C. Cabot, now known as the father of hospital social service. From this seed grew *organized* hospital social service, as a separate entity yet as an integral part of a hospital. Inspired by the success demonstrated by the Massachusetts General Hospital, other hospitals rapidly adopted the idea, until now it either is in operation or contemplated in most of the hospitals in the United States.

It is utterly impossible to deal with certain phases of disease without tracing them to their origin—in bad-housing, in over-crowding, in sweat-shop conditions, in long hours of work, in child labor, in lack of air and sunshine, in under-feeding and in those many and varied social conditions which seem to lie especially within the sphere of the social worker. Failure to count with these conditions explains easily enough why the patient, apparently cured on leaving the hospital, must return there for treatment again and again. *Until the social cause of disease is removed, mere medication will never serve to eradicate disease.* How foolish, for instance, it is to believe that building of *sanatoria* will stamp out the tubercular plague so long as the victims of this dreadful malady must return after their short stay in the healthful surroundings of an out-door hospital, to an environment that is a breeding spot for life-destroying germs.

That hospital falls short in its prime purpose which fails to coöperate with other social, philanthropic and educational forces in the community, and which does not maintain that coöperation both before and after the actual treatment

* Read before Women’s Section, A. Ph. A., Indianapolis meeting, 1917.

of the patient. Emphasis has many times been laid upon the need of continuity in social service on the part of the hospital authorities after the dismissal of the patient, but of equal importance with the study of the social environments *into* which the patient goes after his leaving the hospital, if a permanent cure is to be effected, is evidently the study of the environment *out* of which he comes, if a true diagnosis of his case is to be made. Thus the hospital must realize itself as a great social force and not content itself to be, as unfortunately it frequently is, the mere adjunct, laboratory or experimental station of some medical school or coterie of men.

In large hospitals where the social service department is well established with head workers, assistants and volunteer workers, they are assigned to special departments which deal with children, nervous cases, tuberculosis, sex problems, etc. In a small hospital one or two workers may suffice to take care of all departments. Greater results will be obtained by the social service department when coöperating with same department of the large hospital—and so plan its work that it will not duplicate the work of other agencies of human helpfulness in the community.

An ever-changing procession passes through the wards and dispensaries of a hospital. The overworked physician and nurse treat the disease, but they have little time to become acquainted with the man inside of the body, still less with his usual environments. To investigate and correct these the social worker is called in to supplement the doctor and the nurse.

In a hospital ward lay a man stricken with pleurisy and threatened with a worse malady. When the doctor, on his morning rounds, saw his fear-stricken feverish face, he said to the nurse, "His troubles are bothering him, we'll have to call on the social-service to help us out." The patient, watching them apathetically, wondered what the mysterious "Social Service" might be. Within the hour he knew. The cheery-faced worker from the Relief Bureau soon gained his confidence, and to her he relieved his mind of the worries besieging him, as only a sick man will. The next day his wife came to see him, her face beaming with happiness, as she told him, "The boy is to go to a fine country home where they have real milk and coughs get cured—and the twins would get their shoes." A fortnight later the patient was dismissed convalescent. Assured of the future, he gleefully told the doctor what the medical man already surmised, "that the social service bureau which takes care of a man till he can take care of himself had found him a place as caretaker for a gentleman in the country.—I can have my wife and children with me and the kind of work I can do until I am strong enough for my old job. The Bureau's even got the boss to promise to take me back then." "You can't well decline the help of the Social Service when they give you a chance to even up, if you want," said he, standing out for his manhood.

A difficult task is the securing of suitable employment for discharged patients. If occupation has contributed to the diseased condition, a new occupation must be found. That requires long search and many appeals. In desperation, Dr. Janeway organized a school for the handicapped in New York, where they are trained in metal-work, wood-work, needle-work, etc., suited to their ability—artistic cement work has been developed in Sharon, Conn., and Boston, Mass., for cardiacs.

A most successful pottery in California is operated by convalescent tubercular patients. Many social service departments in the large hospitals throughout our land have adopted similar schools for the handicapped and claim that it gives their convalescent patients not only diversion of mind, but interest in avocations which will always prove helpful to them.

THE CONSTANT AND INCREASING NEED FOR SOCIAL SERVICE WORKERS OPENS UP A
NEW ACTIVITY FOR WOMEN.

It is generally conceded that a hospital social service worker should be a trained nurse, for she fits better into hospital life and she can understand the nature of the disease to which she must apply a social remedy. The present pioneers in the profession have usually had experience of visiting nurses or nurses attached to free clinics or social settlements, where they have come in contact with people in their habitual surroundings and know them in their human relations, but no amount of training will make her a competent worker unless she be endowed with character, tact, perseverance, resourcefulness, sympathy, humor, and last but not least, a heart filled with a Christ-like spirit. A Christian worker said, "It is easier to help a man on his feet who has been off-set by unsurmountable difficulties than it is to keep him there, unless we assist him to find God, and put his trust in Him."

Women make ideal social service workers. Large contributions have been made by women for the founding of various types of hospitals, both private and public. In instance after instance, the first hospital to make its appearance in a town represents the hard work of the women of that town, in raising money or in the education of the public opinion to demand it. The first hospital ambulance in Chicago was bought by a Woman's Club. Ella Flagg Young brought the open-air idea into public schools by seeing that properly devised window boards were installed, so that school children might regularly study with open windows. Thus women social workers are directly and indirectly doing their bit towards hospital social service work.

The time is past when a public hospital is regarded as a public charity. The theory is now fully recognized that the community owes to its members hygienic conditions of living and medical and surgical attention in just as great a degree as it owes the boon of education.

Health is not the property of the individual who enjoys it, but of the community; disease menaces not only the sufferer but all with whom he may come in contact. It is upon this theory that our municipal boards of health operate, that our hospitals are endowed, that hospital social service was organized and that now a national board of health is proposed.

The goals to which the hospital and the social arm are working hand in hand are the reduction of economic waste through preventable illness and death, and the lengthening of human life. In its larger sense hospital social service is the most modern of the many movements seeking to solve the world's old problem of right living. It foreshadows the time when the right to correct living, to health giving light and air, to good wholesome and health-producing food will not be withheld from the humblest in the land.

PHARMACEUTICAL FORMULAS

PROPOSED FOR A. PH. A. RECIPE BOOK.

A complete list of these Proposed Formulas since February 1912 was published in an index in the December 1916 number of the JOURNAL. The Committee will continue its work in monthly instalments in this Department of the JOURNAL. Members of the A. Ph. A. are earnestly requested to send suitable formulas and also criticisms of those published to the Chairman.

Otto Raubenheimer, Brooklyn, N. Y.

Contributed by the Chairman:

TINCTURAE-TINCTURES.

The German and other foreign pharmacopoeias still cling to the old method of preparing tinctures by maceration. The ground drug is macerated with the prescribed menstruum in a well stoppered bottle at room temperature with frequent agitation, during one week. The mixture is then strained and the marc is expressed. Last the tincture is filtered, avoiding loss menstruum through evaporation.

This time-honored method has the decided disadvantage that the *exact quantity of the finished tincture is not prescribed*. In the opinion of the author this method can be replaced to great advantage in American pharmacy by our up-to-date method of percolation, whereby a definite quantity of tincture is obtained. It is therefore suggested that in the formulas for Tinctures of foreign pharmacopoeias, the alternative method of percolation can be used and the percolation can be continued until the required volume or weight of finished tincture is obtained. It is, of course, understood that the structure of some of the drugs do not permit percolation, and that in such cases the tincture must be prepared by maceration.

No. 615.

TINCTURA ALOES COMPOSITA.

Compound Tincture of Aloes.

Elixir ad longam vitam.

Elixir amarum Hjaerteri.

Long Life Elixir-Swedish Elixir.

D. A.-B. V.

Aloe.....	6 Gm.
Zedoaria N. F. IV.....	
Crocus N. F. IV.....	
Rhubarb.....	
Gentian, of each.....	1 Gm.
Alcohol, 68%.....	200 Gm.

Compound Tincture of Aloes has a reddish brown color, a Saffron odor and a bitter and spicy taste.

1 mil of the tincture imparts a distinct yellow color to 500 mils of water. (Presence of crocus.)

Besides the synonyms given above, the following names also apply: Elixir Sacrum, Elixir Suecicum or Elixir Jernitzii.

It is a favorite preparation among foreigners and is called for under such names as Lebenselixir, Lebensessenz and Lebenstropfen. In these compound words the name "Leben" is frequently corrupted into "Leber." Other

names are Magentropfen and Quinttropfen.

Manufacturers have taken advantage of this demand and have placed this tincture on the market as proprietary preparations under such names as: Hamburg, Altona, Augsburg, Sulzberger, Salzungen, Mariazeller, etc. Drops Tropfen, Essenz or Flusstinktur. The formula of these preparations is sometimes slightly modified.

No. 616.

TINCTURA CALAMI.

Tincture of Calamus.

D. A.-B. V.

Calamus, ground.....	100 Gm.
Alcohol, 68%.....	500 Gm.

Tincture of Calamus is yellowish brown and has a bitter and acrid taste.

No. 617.

TINCTURA GENTIANAE.

Tincture of Gentian.

D. A.-B. V.

Gentian, ground.....	100 Gm.
Alcohol, 68%.....	500 Gm.

Tincture of Gentian is yellowish brown and has a bitter taste.

No. 618.

TINCTURA COLOCYNTHIDIS.

Tincture of Colocynth.

Tincture of Bitter Apple.

D. A.-B. V.

Colocynth, deprived of the seeds and cut.....	100 Gm.
Alcohol, 90%.....	1000 Gm.
Tincture of Colocynth is yellow and has a very bitter taste. Keep separate.	
Maximum Single Dose.....	1 Gm.
Maximum Daily Dose.....	3 Gm.

No. 619.

TINCTURA ANGELICAE.

Tincture of Angelica Root.

E. B.

Angelica Root, N. F. IV, cut.....	100 Gm.
Alcohol, 68%.....	500 Gm.

A light brown tincture.

No. 620.

TINCTURA IPECACUANHAE.

Tincture of Ipecac.

Tinctura Ipecacuanhae P. I.

D. A.-B. V.

Contains at least 0.194 percent of alkaloids
calculated as Emetine ($C_{30}H_{44}O_4N_2 = 497.37$).
Ipecac, ground..... 100 Gm.
Alcohol, 68%..... 1000 Gm.

For assay consult the German Pharm-
acopoeia.

Tincture of Ipecac is light brown.

The addition of a granule of chlorinated
lime to a mixture of 5 drops of the tincture
and 10 drops of diluted hydrochloric acid
produces an orange yellow color.

If *Vinum Ipecacuanhae* is prescribed then the
pharmacist should dispense *Tinctura Ipecac-
uanhae* in place.

Keep separate.

No. 621.

TINCTURA ANTICHOLERICA.

Tinctura Antidiarrhoica.

Cholera Drops.

E. B.

Oil of Peppermint	2 mls
Tincture of Cascarilla (No. 640) ..	8 mls
Tincture of Opium.....	10 mls
Tincture of Krameria N. F. IV...	20 mls
Ethereal Tinct. of Valerian N. F..	30 mls
Aromatic Tincture N. F.....	30 mls

To make..... 100 mls

Mix, set aside for 3 days and then filter.

A clear dark brown tincture of spicy taste
and odor.

No. 622.

TINCTURA AROMATICA ACIDA.

Acid Aromatic Tincture.

Elixir Vitrioli Mynsichti.

E. B.

Cinnamon.....	50 Gm.
Ginger.....	20 Gm.
Galanga N. F. IV.....	
Cardamom.....	
Clove, of each.....	10 Gm.
Hydrochloric Acid.....	20 Gm.
Alcohol, 68%.....	500 Gm.

Macerate the ground drugs in the liquids
and prepare a tincture.

A reddish brown tincture with a strong
spicy odor and acid taste.

No. 623.

TINCTURA CONDURANGO.

Tincture of Condurango.

E. B.

Condurango, N. F. cut.....	100 Gm.
Alcohol, 68%.....	500 Gm.

A clear yellowish brown liquid with a
peculiar taste.

No. 624.

TINCTURA AURANTII FRUCTUS IMMATURI.

Tincture of Unripe Orange.

Tincture of Orange Apples.

E. B.

Orange Apples, ground.....	100 Gm.
Alcohol, 68%.....	500 Gm.

A greenish brown tincture with a spicy
and bitter taste.

No. 625.

TINCTURA CARMINATIVA.

Carminative Tincture.

Tinctura Calami Composita.

E. B.

Zedoary N. F. IV, cut.....	16 Gm.
Calamus, cut.....	8 Gm.
Galanga, N. F. IV, cut.....	8 Gm.
Anthemis, ground.....	
Caraway, ground.....	
Anise, ground, of each.....	4 Gm.
Laurel Berries, ground.....	
Clove, ground, of each.....	3 Gm.
Mace, N. F. IV, ground.....	2 Gm.
Bitter Orange Peel, ground.....	1 Gm.
Alcohol, 68%.....	100 Gm.
Peppermint Water.....	100 Gm.

Prepare a tincture by maceration.

Before dispensing add:

Spirit of Nitrous Ether...10 percent.

A brown tincture of spicy odor and taste.

Note.—Laurel Berries or Fructus Lauri,
D. A.—B. V. are the dried ripe fruit of *Laurus*
nobilis Linné.

No. 626.

TINCTURA CASTOREI.

Tincture of Castor.

E. B.

Castor, in coarse powder..... 100 Gm.

Alcohol, 90%..... 1000 Gm.

Prepare by maceration.

A yellowish brown tincture.

No. 627.

TINCTURA CASTOREI AETHEREA.

Ethereal Tincture of Castor.

E. B.

Castor, in coarse powder..... 100 Gm.

Ether..... 250 Gm.

Alcohol, 90%..... 750 Gm.

Prepare by maceration.

A yellowish brown tincture with an ether
odor.

No. 628.

TINCTURA CHINOIDINI.

Tincture of Chinoidin.

E. B.

Chinoidin, in coarse powder..... 20 Gm.

Alcohol, 68%..... 170 Gm.

Hydrochloric Acid..... 10 Gm.

Prepare by maceration.

A dark brown tincture with a very bitter
taste.

No. 629.

TINCTURA COCCINELLAE.

Tincture of Cochineal.

E. B.

Cochineal, in coarse powder..... 100 Gm.

Alcohol, 90%..... 1000 Gm.

Prepare by maceration.

A yellowish red tincture.

No. 630.

TINCTURA EUCALYPTI.

Tincture of Eucalyptus.

E. B.

Eucalyptus Leaves, cut..... 100 Gm.

Alcohol, 68%..... 500 Gm.

Prepare by maceration.

A greenish brown tincture.

No. 631.

TINCTURA GALANGAE.

Tincture of Galangal.

E. B.

Galanga N. F. IV, cut..... 100 Gm.

Alcohol, 68%..... 500 Gm.

Prepare by maceration.

A brown tincture with a sharp spicy taste.

No. 632.

TINCTURA GUAIACI LIGNI.

Tincture of Guaiac Wood.

E. B.

Guaiac Wood, cut..... 100 Gm.

Alcohol, 68%..... 500 Gm.

Prepare by maceration.

A dark brown tincture with an agreeable
odor and somewhat acrid taste.

No. 633.

TINCTURA KALINA.

Tincture of Potassa. Kalitinktur.

E. B.

Potassium Hydroxide..... 10 Gm.

Dehydrated Alcohol..... 60 Gm.

Dissolve.

A colorless liquid which becomes brown.

Keep separate.

No. 634.

SUPPOSITORIA HAEMORRHOIDALIA.

Hemorrhoid Suppositories.

Pile Suppositories.

E. B.

Bismuth Subiodide..... 1.0 Gm.

Bismuth Subgallate..... 1.0 Gm.

Zinc Oxide..... 1.0 Gm.

Resorcinol..... 0.1 Gm.

Peru Balsam..... 0.5 Gm.

Oil of Theobroma..... 26.4 Gm.

Mix and divide into rectal suppositories,
weighing 3 Gm. each.

No. 635.

SUPPOSITORIA ANTIHAEMORRHOIDALIA.

Suppositories against Hemorrhoids.

Anusol Style.

Lix.

Bismuth Iodotannate..... 3.75 Gm.

Bismuth Resorcinate..... 3.75 Gm.

Zinc Oxide..... 6.00 Gm.

Peru Balsam.....	1.50 Gm.
Oil of Theobroma.....	19.00 Gm.
Wax Ointment D. A.-B. V.....	2.50 Gm.

(Formula No. 4, Vol. I, 170.)

Mix and divide into 12 rectal suppositories.

No. 636.

SUPPOSITORIA HAMAMELIDIS.

Hamamelis Suppositories.

Witch Hazel Suppositories.

E. B.

Pilular Extract of Hamamelis.....	1 Gm.
Oil of Theobroma.....	19 Gm.

Mix and divide into 10 rectal suppositories.

No. 637.

SUPPOSITORIA OLEI CACAO ET GLYCERINI.

Cacao Butter and Glycerin Suppositories.

Lux.

Glycerinated Gelatin.....	1 Gm.
Oil of Theobroma.....	2 Gm.

Melt the ingredients, mix well and pour into metal molds.

No. 638.

TINCTURA FERRI AROMATICA.

Aromatic Tincture of Iron.

E. B.

Liquid Dialyzed Iron.....	63 Gm.
Syrup.....	300 Gm.
Solution Sodium Hydroxide	
U. S. P.....	10.5 Gm.
Alcohol 90%.....	165 Gm.
Tincture Sweet Orange Peel.....	3 Gm.
Aromatic Essence (No. 641).....	1.5 Gm.
Tincture of Vanilla.....	1.5 Gm.
Acetic Ether.....	5 drops

Distilled Water, a sufficient quantity.

To make..... 1000 Gm.

Mix the dialyzed iron and syrup and add at once a dilution of the solution of sodium hydroxide with 26.5 Gm. of water. Agitate well and add the balance of the water (429 Gm.) and the other ingredients.

Aromatic Tincture of Iron is a clear brown solution with an agreeable aromatic odor and taste.

It contains not less than 0.2% Fe.

No. 639.

TINCTURA AROMATICA AMARA.

Aromatic-Bitter Tincture.

E. B.

Aromatic Tincture N. F.

Bitter Tincture, N. F., equal volume.

No. 640.

TINCTURA CASCARILLAE.

Tincture of Cascarella.

E. B.

Cascarilla Bark.....	100 Gm.
Alcohol, 68%.....	500 Gm.

A reddish brown tincture.

No. 641.

SPIRITUS AROMATICUS.

Aromatic Spirit.

Aromatic Essence.

E. B.

Coriander.....	50 Gm.
Nutmeg.....	
Ceylon Cinnamon.....	
Marjoram.....	
Clove, of each.....	25 Gm.
Alcohol, 90%.....	750 Gm.
Water.....	850 Gm.

To make..... 1000 Gm.

The ground drugs are macerated with the menstruum for 24 hours, with occasional agitation. Then place the mixture into a still and distil 1000 Gm.

Aromatic Spirit is a colorless liquid with a sp. gr. 0.885 to 0.895.

It must not be confused with

Tinctura Aromatica

Aromatic Tincture

which is official in D. A. B. and also in N. F.

No. 642.

TINCTURE FERRI COMPOSITA.

Compound Tincture of Iron.

Athenstaedt's Style.

Lux.

Saccharated Ferric Oxide, N. F.

IV.....	70 Gm.
Distilled Water.....	570 Gm.
Syrup.....	240 Gm.
Alcohol, 90%.....	160 Gm.
Aromatic Tincture N. F.....	1.5 Gm.
Tincture Sweet Orange Peel.....	3 Gm.
Tincture of Vanilla.....	1.5 Gm.
Acetic Ether.....	5 drops

Dissolve the "Eisenzucker" in the water and add the other ingredients.

This is a simplified formula, which produces an elegant preparation.

Dose: A tablespoonful 3 times daily. Children in proportion.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

INDIANAPOLIS.

A meeting of the Indianapolis Branch of the American Pharmaceutical Association was held Monday evening, August 6, at 8.00 P.M., in the Indianapolis Chamber of Commerce; Mr. F. H. Carter, President, presided.

Mr. C. R. Eckler, of Eli Lilly & Co., spoke on the pituitary body, taking up first the early notions held in regard to its function and importance. One such notion was that the pituitary secreted the mucus which lubricates the nose. The early studies of the internal secreting glands were mentioned, leading up to and including the recent surgical work of Cushing, Bell and others, illustrating the modes of operation. The pituitary is essential for life and proper development. Complete extirpation is always followed by death. The loss of the anterior part is responsible for this fatal result.

The position of the pituitary in the cranial cavity, its bony and membranous protection, the comparative size of the body in different animals, the two lobes and their comparative size and relations were demonstrated on the human skull and on carefully dissected—out brains of several different animals. The genesis of the organ was explained—the posterior lobe developing from one of the ventricles of the brain, the anterior lobe from the roof of the primitive oral cavity. Drawings of histological sections showed the cellular structure of the two lobes and also the inter-

mediate part—a thickening of glandular tissue about the neck and stalk of the posterior lobe, developed from the anterior lobe, and probably furnishing the secretion distributed by the posterior lobe. The conditions of hypopituitarism and hyperpituitarism were discussed and illustrated with plates. The suggested relationship between hypopituitarism and hibernation was mentioned.

Injection of anterior lobe extracts or the feeding of desiccated lobe has not been followed by decisive results. The injection of posterior lobe extracts apparently slows and strengthens the heart, increases the tone of involuntary muscle quite generally except for that of the blood vessels of the kidney, and increases the function of a number of glands such as the mammary, kidney, and liver.

Finally, the uses of posterior lobe extracts in medicine were considered, and the physiological methods of testing such extracts were outlined and illustrated by photographs and drawings.

The following officers were elected: F. H. Carter, President; C. R. Eckler, Vice-President; F. E. Bibbins, Secretary-Treasurer; and the Executive Committee: C. W. Watkins, A. D. Thorburn, E. W. Stucky, M. P. Schwartz and J. W. Stokes. Delegates to the A. Ph. A. are E. E. May, H. W. Rhodehamel and F. B. Fisk.

FRANCIS E. BIBBINS, *Secretary*.

BOOK NOTICES AND REVIEWS.

Brazil—To-day and To-morrow. By L. E. Elliott. Literary Editor of the *Pan-American Magazine*. McMillan Co., 1917.

Besides a brief introductory discussion of geographical, geological, climatic, political, and other conditions, the subject matter is divided into eight chapters: I. History of Brazil. II. Colonization. III. Social conditions. IV. Transportation. V. Industries. VI. Finance. VII. Horticultural and Medicinal Plants. VIII. Exterior Commerce. Statistical data on area and population of the different states of Brazil, etc.

In the chapter on industries the reader finds an interesting discussion of Coffee, Cacao, Mate, and especially rubber. The part on medicinal plants, although very brief, contains some valuable data on Ipecac, Copaiba, Guarana, Pilocarpus, Quassia, and other native drugs.

The information given appears to be the result of a thorough study. The book is written in a brilliant style and with fascinating force. It is highly recommended to readers interested in South American Countries.

ARNO VIEHOEVER.

COUNCIL BUSINESS

A. PH. A. COUNCIL, LETTER NO. 27.

PHILADELPHIA, PA., August 14, 1917.

To the Members of the Council:

Motion No. 33 (Vacancy in Committee on Proprietary Medicines), Motion No. 34 (Vacancy in Committee on Transportation), and Motion No. 35 (Election of Members; applicants Nos. 228 to 239, inclusive), have each received a majority of affirmative votes.

Motion No. 36 (Election of Members). The following applications have been presented:

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| <p>No. 240. Hastings Fitzkee, 603 Locust St., Wrightsville, Pa., rec. by Charles H. LaWall and M. R. LaWall.</p> <p>No. 241. Halley Hamilton Gaetz, c/o Univ. of Alberta, Edmonton South, Prov. of Alberta, Canada, rec. by Wm. B. Day and J. W. England.</p> <p>No. 242. James Gilbert Cotanche, Long and Brady Sts., DuBois, Pa., rec. by Charles H. LaWall and M. R. LaWall.</p> <p>No. 243. Adeline Walter, Sheridan, Montana, rec. by Charles E. Mollet and Alex. F. Peterson.</p> <p>No. 244. William H. Dawe, 425 N. Wyoming St., Butte, Mont., rec. by Charles E. Mollet and Alex. F. Peterson.</p> <p>No. 245. Leonard J. Schwarz, 837 N. Delaware St., Indianapolis, Ind., rec. by Francis E. Bibbins and M. K. Pruyn.</p> <p>No. 246. Julio Samper, M.D., 507 Stevens St., Indianapolis, Ind., rec. by M. K. Pruyn and Francis E. Bibbins.</p> | <p>No. 247. John J. Posschl, 1102 Wells St., Milwaukee, Wis., rec. by S. A. Eckstein and Wm. B. Day.</p> <p>No. 248. Samuel R. Fruchtman, Main and Church Streets, Millburn, N. J., rec. by George S. Campbell and Edward A. Sayre.</p> <p>No. 249. Walter Albert Jamieson, 2456 N. Meridian St., Indianapolis, Ind., rec. by R. W. Showalter and F. E. Bibbins.</p> <p>No. 250. William George Perry, 301 12th St., Miami, Florida, rec. by Ernest Berger and Wm. B. Day.</p> <p>No. 251. Leon P. Hale, 703 Franklin Street, Tampa, Fla., rec. by Ernest Berger and Wm. B. Day.</p> <p>No. 252. Joseph Sarlo, 5717 Baynton Street, Germantown, Pa., rec. by Charles H. LaWall and M. R. LaWall.</p> <p>No. 253. Harry J. Quin, 187 Bloomfield Ave., Newark, N. J., rec. by George S. Campbell and Edward A. Sayre.</p> <p>No. 254. Carl William Lutz, Ottawa, Ills., rec. by Wm. B. Day and C. M. Snow.</p> <p>No. 255. Henry M. Smith, 2-4 South Street, Morristown, N. J., rec. by George S. Campbell and Edward A. Sayre.</p> <p>No. 256. Charles Paul Rutkin, Morris Ave., Springfield, N. J., rec. by George S. Campbell and Edward A. Sayre.</p> <p>No. 257. Garfield David Merner, 7001 Washington Blvd., St. Louis, Mo., rec. by C. B. Jordan and J. M. Noble.</p> |
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J. W. ENGLAND,

Secretary of the Council.

415 NORTH THIRTY THIRD STREET.

NOMINEES OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

For President.—Julius A. Koch, Pittsburgh; L. A. Seltzer, Detroit; Charles H. LaWall, Philadelphia.

For First Vice-President.—F. W. Nitardy, Denver; E. A. Ruddiman, Nashville; Jacob Diner, New York.

For Second Vice-President.—Theodore J. Bradley, Boston; W. W. Stockberger, Washington; H. C. Christensen, Chicago.

For Third Vice-President.—Frank Schachleiter, Little Rock; L. C. Lewis, Tuskegee; Francis Hemm, St. Louis.

For Members of the Council.—Charles Holzhauer, Newark, N. J.; W. J. Teeters, Iowa City; C. B. Jordan, Lafayette, Ind.; C. A. Mayo, New York; R. A. Lyman, Lincoln, Neb.; Charles E. Caspari, St. Louis; O. F. Claus, St. Louis; George F. Payne, Atlanta; John C. Wallace, New Castle, Pa.

W. L. DeWoody, of Pine Bluff, Ark., was elected Honorary President for 1917-1918.

COMMITTEE REPORTS

REPORT OF THE COMMITTEE ON DRUG REFORM, AMERICAN PHARMACEUTICAL ASSOCIATION.*

Your Committee on Drug Reform, which has been continued by official action, has the honor to report its progress during the last year.

President Wulling appointed the following members to act: E. L. Newcomb, Minneapolis; E. N. Gathercoal, Chicago; C. B. Jordan, Lafayette; Gustav Bachman, Minneapolis; L. E. Sayre, Lawrence, *Chairman*.

Correspondence between the members has been carried on at intervals during the year, in order that each one shall be informed of their work, and discussion has kept the members informed with regard to any procedures which might be followed either individually or collectively.

A letter was sent to each one of the members early in the year, asking for suggestions as to what definite line of work the Committee might pursue. A very characteristic letter and one which represents the situation of the Committee was received from Professor Gathercoal in which he says:

"You know, as well as I, that there are problems, simply huge in magnitude, that might properly come before this Committee and we both know, also, that neither of us has the time nor courage nor ability (let me say it in all soberness), to cope with these great questions. I remember one year we discussed 'Self Dispensing;' again, the 'Teaching of Materia Medica in Colleges of Medicine;' last year, 'Patent Medicines.' What immense problems these are. We know, too, that 'every bit helps' and that 'constant dropping wears away the hardest stone,' so that perhaps our little bit each year keeps the question before the Association, and really does help some."

The reply from Professor Jordan emphasizes the importance of the consideration of the "patent medicine" evil. He says:

"I would say that the stand you have taken toward the matter of the 'patent medicine' vender being permitted to peddle his wares about the country promiscuously and, in fact, being licensed by the county in which he does business, is, to my mind, a deplorable one. I believe that every association of pharmacists, county, state and national, should do all in their power to restrict the poisonous articles handled by such itinerant venders and in that way protect the health of the community. I feel strongly regarding the question of the lack of representation of the pharmacists in the Army and Navy, and I believe that every section of the American Pharmaceutical Association and practically every committee of the Association should hammer away on this proposition until proper recognition is accorded us."

He then states what he is doing himself in connection with the Indiana Pharmaceutical Association and other organizations. He says:

"I am not quite sure that it is within the province of this Committee to discuss this subject, but since we feel as we do about it, I believe we should not stop to ask the question whether it is in the province of this Committee, but to go ahead and do all we can for fear that no other committee will attack the proposition. I would suggest that we incorporate in our report a careful presentation of the importance of pharmacy in the Army and Navy, together with a statement of fact regarding the lack of representation that we have to-day. Would also suggest that we recommend a committee to be appointed to carefully investigate the service in the Army and Navy of other countries and determine whether we, the pharmacists of America, are not being discriminated against."

Following the suggestions of his associates, your Chairman would state that the problem of proper representation of pharmacists in the Army and Navy has been very boldly and satisfactorily faced by various organizations. President Wulling, it is well known, initiated a movement in the right direction. Some have deplored the fact that this movement had been delayed—but it is a waste of time to spend it upon introspection and criticism. We should at once form a representative organization which would be of effective service.

* Presented before Section on Education and Legislation, A. Ph. A., Indianapolis meeting, 1917.

It would seem to your Chairman that this is time when the various pharmaceutical organizations should form a coöperative federation for national service. Within the past few years there have been created notably the American Drug Manufacturers' Association and the National Drug Trade Conference. The existence of these valuable organizations suggest the possibility of the formation of a still larger and more representative body—an organization that would link together these bodies and others with the older American Pharmaceutical Association in one federation, all working toward the proper representation of pharmacy, securing authority to practically handle the pharmaceutical and chemical supplies of the Army and Navy.

Dr. A. R. L. Dohme suggests¹ "that the six national associations constituting the Conference (the American Pharmaceutical Association, the National Wholesale Druggists' Association, the American Drug Manufacturers' Association, the National Association of Retail Druggists, the American Association of Pharmaceutical Chemists, and the Proprietary Association of America), should, at their next annual meetings, authorize their duly elected, or appointed, three delegates, to form a Conference to be clothed with the power to act, instead of the power to advise, confer, and refer back to their respective associations. These powers should, of course, be specific instead of general, and should, as a preliminary experiment, be limited to matters of national and state legislation affecting the drug trade." The combined committees should know all the practical conditions and their service would be of value to the Nation. The proposition to have the drug trade thus represented, it is needless to say, is not a self-seeking one. It is one saturated with the patriotism of the best order. Pharmacists are anxious to help in the Government at this time of emergency and there is no other profession more ready to sacrifice their own interests than this one. Pharmacy should ask that it have, rather than the medical profession, a domination of the drug situation, for which medical men are not specially trained, or qualified.

As regards the question of "patent medicines," it was stated in the report for last year that your Chairman, as an associate member of the Kansas Board of Health, was iustrmental in securing a conference committee between the Board of Health and the Kansas State Pharmaceutical Association, looking toward some sort of control of "patent medicines" or such agents as are fraudulent and those that would be in violation of the provisions of the Shirley Act; also those that might be sold in violation of the Anti-Narcotic law. In correspondence with Dr. J. H. Beal, I have received his valuable advice as to any procedure that the conference committee might make in the direction of this control. His reply, dated October 14, 1916, states:

"I would recommend that you go slowly in the formulation of state legislation to regulate the package medicine business, bearing in mind that every regulation which applies to the widely advertised proprietary must apply equally to package preparations put up by the local druggist and by druggists' coöperative societies, whether secret or non-secret. After a study of several thousand popular package remedies, our Commission is convinced that the principal evil is connected with the manner in which they are advertised or exploited and not with the preparations themselves. The great majority of such preparations are based upon formulas of recognized therapeutic usefulness in common use by the medical profession, the principal objection to them being, that they are advertised to do things they are not capable of accomplishing. In my estimation legislation affecting the subject should be federal legislation. If the states adopt separate laws there will be endless disagreement and confusion, which will require a quarter of a century to correct. It is the hope of our Commission to formulate, before long, some sort of a measure for introduction into Congress."

Acting in accordance with the advice of Professor Beal, your Chairman has not felt it wise to suggest to the conference committee any definite form of regulation until a report from Dr. Beal's committee is received. Therefore, at the last meeting of the Kansas Board of Health, held June 13th, this matter, by consent of the Board, was held in abeyance until a later meeting. The form of the action of the Board of Health was, in substance, that no change be made in regulations now in force, which in Regulation 5(b) of the Kansas Law, reads as follows: "Proprietary medicinal preparations and similar medicinal products are required to conform in composition to the freshly prepared non-deteriorated article, and to conform to the claims made for the preparation as to therapeutic properties, quality and strength." This provision in its execution has led, in Kansas, to the condemnation, during the past year, of 2,032 packages of medicine. This is referred to hereafter.

¹ *Bulletin of Pharmacy*, page 186, March 1917.

As to the itinerant vender problem, it needs no argument to show the injustice of the regulation of the law which permits the sweeping privileges of the itinerant vender. No greater injustice has ever been perpetrated than that which protects the so-called medicine wagon. In the state of Kansas the law assumes that an itinerant vender may dispense and prescribe drugs, medicines, nostrums or any kind of appliance for the treatment of disease, injury or bodily defect; and it protects all such itinerant venders as those who profess to cure disease, who shall simply pay to the county clerk of the county, in which he wishes to pursue his occupation, an annual fee of fifty dollars. At the meeting of the last legislature this vicious law was fought strenuously but without success. The active contention for proper control of dispensing and prescribing was fought by statements, sent broadcast to the farmers of the various counties, such as the following:

"By careful perusal of these bills you will note that the druggists are not seeking in any particular to safeguard the public health but simply to drive the wagon salesman out of business. A registered pharmacist knows no more (and often not so much) as to the contents of the medicines he sells in packages than I or any other wagon salesman and for this reason he is no better qualified to sell such medicine than I would be. * * * I deliver our medicines to your doors every six months. Our medicines are compounded in strict conformity to the laws of State and Federal government, and our farmer customers prefer them to the medicine sold by the drug stores, as they find them better because they are fresher, being direct from our laboratory to the customer without standing a long time in warehouses and shelves. * * * Our customers, the farmers, are not asking for this legislation but the druggists are seeking to secure legislation which will force the farmer to patronize them. Another feature of our business is that we allow liberal credit to all our reliable customers, while the drug stores demand cash. * * * It would look now as if the druggist's traffic in alcoholic drinks has passed from him so that he is now seeking to recoup his illegitimate profits of the past by trying to get the Kansas legislature to enact a law that will enable him to steal the business of a law-abiding competitor, etc."

It is needless to say, in passing, that the conditions above described are not unique but are met with in many other states. These will not be overcome, except by wide-spread agitation and public education. We would suggest that the various state associations secure representation in their state boards of health and have this agitation and education emanate from that source rather than from the druggists. It is believed by some of the Committee that it is the duty of the State Board of Health to carry on a campaign against this evil, and, if done from this source, the argument of "self-interest" will be eliminated. The coöperation which is now initiated in Kansas, between the Board of Health and those representing pharmacy, it is hoped, may lead to some such result.

Another kind of combat against the measure of Kansas pharmacists was inaugurated by a physicians' supply house by issuing a circular, as follows:

"We take the liberty of suggesting that you write to your state senator and representative at once asking them to vote against this measure and calling their attention to its inconsistency. It might be a good idea for you to take the matter up with your county society, and get a number of prominent people in your vicinity to write to your state senator and representative, asking for their votes AGAINST this bill."

This advice by this physicians' house was based upon a misrepresentation, stating that the bill introduced made it illegal for any physician to dispense his own medicine and that the bill also required that the physician must write a prescription to be filled by a registered pharmacist. It is needless to say that the bill contained no provision whatever relating to the dispensing doctor, as great an evil as this has become. The said physicians' supply house evidently did not wish to face the issue squarely.

The above description of the legislative campaign against the itinerant vender only partially shows what seems to be true, that there is an accumulated wealth and influence in the nostrum fraternity which lends itself freely to the support of the itinerant vender and his cause and the conditions which support it. If pharmacy is to drive out dishonest advertising and worthless products, your Committee feels that it is time, as before stated, to join with boards of health and urge their coöperation in combating this growing evil.

Aside from the intricacy of the problem of patent medicine control, the question finds itself very largely rooted in the status of the pharmacist and the profession he represents. If pharmacy is to take the lead, instead of being led, in handling such large questions, its general standing must be higher, which standing, it must be admitted, rests with those who have the opportunity to exact requirements for those who are permitted to practice. These requirements should be such as would greatly increase the percentage of those who should be masters of their calling.

When our representative organ of commercial pharmacy, the N. A. R. D., sounds the alarm, it ought to be high time to take heed. In the June 28th issue the following language is found:

"Commercial pharmacy cannot much longer stand up under the terrible neglect that professional pharmacy has suffered: the strain is becoming too great. Still the pharmacist sleeps on! It is possible for pharmacy to fall over night, etc."

This should be enough to make educational institutions, boards of pharmacy, and associations of pharmacy take serious notice and to impel them to mobilize all of their resources toward bringing the average training, efficiency and spirit, now so depressed, to a higher level. One effort at least, toward this end should be made—for the young pharmacist of the future—to dispel the delusion that a few lessons in science, in business management, etc.—furnish a complete pharmaceutical education.

Public impression has much to do with influence. What can we expect of public impression and influence when druggists themselves give a higher rating for a good salesman as clerk, than for a well-trained, educated pharmacist?—at the same time claiming the prestige of the professional pharmacist. Pharmacy, to be accorded the right of control, it should have, in questions relating to the sale and dispensing of remedial agents, must gain and deserve favorable public impression and influence—otherwise it is confronted by the intrusion of a foreign element. This foreign element—which among others includes the medical profession—has unfortunately a seductive theory in regard to the unreliability and capacity of the average pharmacist. This theory permits the statement to be made, however unfair and unjustifiable, that recognizable skill and scientific attainments are limited to a comparatively few in the vocation and that the great mass are unrecognizable as pharmacists, judged by any fairly reasonable standard.

It is more than unfortunate that this prejudice greatly retards active coöperation between medicine and pharmacy. If the time should arrive when barriers to perfect coöperation should be removed all such questions may be successfully dealt with.

Physicians' prejudice in rare cases is due to a feeling of retaliation of unfair dealing, other than that of so-called counter prescribing on the part of the pharmacist. If a druggist permits, for example, a physician to look over another doctor's prescriptions, in that way undermining his practice, there can be but one result—an antagonist and a dispensing doctor. This has actually happened.

This prejudice, checking coöperation, is fostered by some of the manufacturing houses from trade motives. Houses that would eliminate the pharmacist and make the physicians their direct agents, or, if necessary, would eliminate both physician and pharmacist, going directly to the public as some are doing. Until pharmacy can rise above these antagonistic influences and until it can justly command the coöperation of the physician—until the time arrives when the two professions see the value of one to the other—pharmacy is not likely to be able to cope with these great problems.

Referring again to the item of drug control, your Chairman would state that the assistant chief, L. A. Congdon, reports that 2,032 bottles and packages patent and proprietary medicines and drugs had been condemned on account of very apparent deterioration, etc. A letter from Mr. Congdon, referring to the condemnation, states: "The condemnation was taken up personally by the inspector, who is competent to judge of such matters." When on the face of them they are misbranded or deteriorated, the proprietor agrees with the inspectors' opinion. The legal form of rejection, it should be stated, is not to condemn until after an investigation in the drug laboratory has shown that condemnation is necessary. In the above cases it appears that the inspector and proprietor had made the decision, amicably.

The Department of Agriculture, at Washington, referring to fraudulent medicines, makes in the June communication the following statement:

"Attempts to counterfeit or adulterate imported drugs have been more common since the recent high price and scarcity of many of these products and this has encouraged their

imitation. It is interesting to note that of the 1,036 cases terminated in the courts during the year, 198 were brought on account of the false and fraudulent labeling of medicines. In all of these medical cases, save five, the courts found for the government, and this, it is believed, has exercised an important deterrent effect on the vendors of nostrums shipped from one state to another.

"The work of controlling the fraudulent labels of medicines and mineral waters has been greatly strengthened by the establishment of a separate office to deal with these matters. At the request of the Secretary of Agriculture an officer of the U. S. Public Health Service has been detailed to take charge of this work. Moreover, through the close coöperation established with the foods and drug officials of many of the states, the Department was able to direct the attention of the local authorities to the presence of spurious goods in the hands of local dealers and beyond the reach of the Federal authorities which were destroyed by state and municipal officers who, in many cases, prosecuted those responsible for the local traffic."

In closing the report of this Committee, the Chairman would suggest that it would be quite proper at this time to consider its discontinuance or otherwise, in some way, reform the Reform Committee in order that it be made more efficient and useful to the Association as a whole. If the Council will consider the matter of reorganization as suggested, your Chairman is of the opinion that it would be in line of constructive work.

Respectfully submitted,

L. E. SAYRE, *Chairman.*

THE DRUG MARKET OF 1916.*

BY HARRY B. FRENCH.

The conditions governing business in 1916 were very much the same as those in 1915, with one important difference. In 1915 there were large stocks of crude drugs and chemicals bought at ante-war prices. These stocks were almost entirely sold during 1915. In 1916, sales were based on prices of crude drugs and chemicals purchased under existing conditions. It is our opinion, therefore, that the profits of wholesalers and manufacturers in 1916 were very much smaller than during 1915.

It is very unfortunate that retailers throughout the country have so signally failed in realizing the situation and in exacting those advances in prices that were warranted and indeed demanded by advancing costs. Almost all retailers continued selling prescriptions, chemicals and crude drugs on the cost of such products, often purchased before the war, long after they were informed that such products has trebled and quadrupled in price. If the statements made to us are correct, the retail druggists, instead of making larger profits in their business, have actually, during the last two years, been making less money than before. Furthermore, they run the risk of heavy losses when we come into, as we shall later, a falling market. It seems to us that the retailer is too much intimidated by the department store prices. At times, prices are made by department stores far below cost simply for the sake of advertising. We would suggest that the retailer bear in mind that he is the man on the spot, and that when he makes a sale to a neighbor, he is not making a sale in a department store three or four miles distant. Furthermore, his being open during so many hours of the day, the convenience and readiness with which orders can be filled, the advice and suggestions that are so freely given, entitle retailers to a little profit. We would say, in our opinion, it is largely a matter of sagacity and courage. All retailers should realize the conditions surrounding their business, and should charge prices in accordance with the service rendered by them. If they pursued this policy they would be astonished at the good results that would surely follow.

The entry of the United States Government as a buyer will have a very great effect on prices. Under the able guidance of the Council on National Defense, through various committees, much of the competitive bidding, that under existing circumstances would certainly force up prices to a

* From Report of Committee on Trade Interests, B. E. Pritchard, *Chairman*, presented to the Pennsylvania Pharmaceutical Association meeting at Pittsburgh, June 1917.

very high level, will be largely avoided. Yet the demands of the Government will be necessarily so very heavy as to leave comparatively small quantities of various articles for general distribution, which will inevitably result in higher prices.

The tendency of chemicals will, we think, be towards lower prices, excepting only occasionally, when owing to temporary lack of supplies, prices are advanced, but all crude drugs, owing to the increasing difficulties of transportation, the increased cost of insurance and of freights, the disruption of exchanges and the difficulty of obtaining labor, will probably maintain the present high prices and perhaps still higher prices will rule.

One of the articles that appears largely in the eye of the trade at this time is Aspirin. Certain parties claim that anybody has now the legal right to manufacture Aspirin, that is, to sell acetyl-salicylic acid as Aspirin. We ourselves are doing this and indicate our faith in our position by guaranteeing all purchasers if any suits are brought against them. You will remember that the same threats were made by the same parties, when acetphenetidin was sold and labeled as Phenacetin by others than the patentees. Some suits were actually brought, but were never pressed to conclusion. The demand for acetyl-salicylic acid, whether under the name of acetyl-salicylic acid, or under the name of Aspirin, is so great that it has been difficult to supply it. This demand has created a temporary but severe scarcity of salicylic acid, increased by the present demand for dye purposes.

Sodium benzoate may be considered a necessity as a preservative in certain lines of trade. The normal price in quantity is 25 cents per lb. Since the war this has sold as high as \$11.00 per lb. The present price is about \$6.00 per lb. in quantity. The country is flooded with adulterated sodium benzoate and benzoic acid. The foreign manufacturers have customarily put in each package of benzoic acid (the basis of sodium benzoate), some 25 to 30 percent of boric acid. This is placed exactly in the center of the package so that samples may be drawn from the bottom, the top or the sides and only pure benzoic acid obtained. The letting loose of this flood of adulterated products is acquiesced in by the Government. Apparently the Treasury officials take the extraordinary stand that they have no power to refuse the admittance into this country of any chemicals, however adulterated, provided they are properly marked. For instance, under such a ruling, if benzoic acid were marked "70 percent of the U. S. P. strength," we presume it would be admitted. We have held and hold now that this view is wrong and if persisted in entirely defeats the object of the Federal Food and Drugs Act passed in 1906, which was to protect the consumer against adulterated goods. We hold that strictly speaking no goods that are mentioned in the Pharmacopoeia should be admitted that do not comply with the conditions of the Pharmacopoeia. If, however, this rule was rigidly enforced, the drug trade would be unable to obtain many of the necessary products. We, therefore, hold that the Department of Agriculture has the power to name the conditions on which importations not complying with the requirements of the U. S. P., shall be released. As for the contention that, when properly marked, they must be released, we venture to express the opinion that this stand is unjustified. The law gives the power to the executive officials to protect the public from crude drugs and chemicals that are injurious. The Government officials have never until recently hesitated to refuse admission to any drugs or chemicals that they thought to be injurious to the community. If the view that they now apparently take, that they no longer possess this power, is justified, it is a matter of the greatest importance that an amendment should be made to the law at the earliest possible moment.

There is another objection against releasing goods if they are properly marked and that is, as soon as such goods pass the custom house, we regretfully are forced to say that the marks indicating inferior quality are customarily removed. In all our purchases we have never had goods delivered to us that were so marked, and when we have made complaint against imported goods that were below the standard of strength, we were simply told that they had been passed by the custom house.

Citric acid was advanced some time ago, but apparently the American manufacturers have an abundance of crude materials and are anxious to maintain the present schedule of prices. We have had very little hot weather as yet, but higher prices are scarcely to be expected.

Syrupy phosphoric acid has been extremely scarce and it is very high in price. We do not know just the reason for this but we understand it has some relation to the lessening of the capacity of production, owing to inability to obtain power. This condition it is thought will be remedied within a few months.

Adeps Lanae has recently had a large advance.

Alcohol has occupied a very interesting position. It is proposed to impose an additional tax on grain alcohol of about \$1.90 per gallon. At first it was proposed to make this tax retroactive. In many quarters it was thought that Congress did have the power to make retroactive legislation but this opinion was not well founded. The power of Congress in making retroactive law is limited to civil law, and cannot apply to common law. It is, therefore, within the power of Congress to make the increased tax on Alcohol retroactive to go into effect the first year of the founding of the Republic. Fortunately wiser counsels prevailed. To make the tax on alcohol retroactive would have worked the grossest injustice. The price on grain alcohol has advanced to about \$3.58 per wine gallon, in barrels. If an additional tax of \$1.90 is imposed on the alcohol it will make this article something of a luxury, and will, as a matter of course, affect a great many items of which alcohol constitutes an important constituent.

It was at one time proposed to levy a tax on denatured alcohol but this suggestion has been withdrawn, though such taxation may be finally imposed.

The five percent tax on perfumery and proprietary medicines is based on the wrong principle in that it is based on sales. It is not infrequent for a business to be conducted at a loss, and to tax the sales of such a business is unjust in principle because you are taxing them on something they do not possess. The correct basic idea of taxation is to levy taxation so far as possible on net profits. The State, of course, must protect itself by passing laws regulating the reports from business companies and corporations and carefully inspecting the salaries paid. No citizen, in times of crisis like this, should and we think will object to paying whatever percentage of net earnings may be deemed necessary by the Government to be collected for its support.

One of the interesting illustrations of advances in prices is that of arsenic from about 3 1/2 cents per lb. to 17 cents per lb. There is a very large advance in the price of blue vitriol. This naturally affects the price of Paris green, which latter article to-day is worth about 50 cents in arsenic kegs.

Quinine is another very interesting article. Because of the difficulty on the part of the American manufacturers in obtaining shipments of bark, the manufacturers in this country have been unable to supply quinine sulphate in large quantities, even at their advertised price of 75 cents in 100-oz. tins. It is thought that this difficulty will soon be overcome. The Government is a large buyer of quinine but in such a way as not to affect the market price. Batavia is becoming a greater source of supply and very large quantities are being shipped to this and to other countries from that island. The quality is excellent and answers all the requirements of the Pharmacopoeia. It would seem not impossible that in the near future, manufacturers in other countries may find it unprofitable to manufacture quinine sulphate. The cost of freight, insurance and other expenses in handling the bark is equivalent to the payment of a bounty to the manufacturers of quinine in Batavia.

Opium and its products have reached unparalleled prices and are not obtainable in large quantities. Turkey opium is practically unobtainable. The India opium is too low in test to be brought into this country, except the Government should agree to permit such importations without reference to the law. The only other opium that is available is the Persian, which in the past has been mostly shipped to England. It seems that some special arrangements are being made because Persian opium is now being permitted to come forward from that country. We were told by a representative of a house that had large connections in Persia, that a buyer offered to pay the market price in Persia and pay them a commission of 20 percent if they could get the opium out of that country, but they stated it was impossible to do this at that time, owing to the lack of money of any kind in Persia and to the general disorganization prevailing in that country. We presume, however, that conditions have since been improved.

Cocaine hydrochloride is in very small supply because of the very great export demand and the present price in 1-oz. vials is \$9.00 per oz.

Arnica flowers are \$3.00 to \$3.25 per lb. This scarcity probably will be somewhat relieved later this year. Shipments have been made of spurious arnica flowers that we are told grow in the plains instead of on the mountains.

The purchases for Government purposes here and abroad of dynamite glycerin have been so great and the scarcity of oils of all kinds, both fat and seed, has been so great, that prices all along the line have advanced very greatly, and C. P. glycerin in 50-lb. tins to-day is worth 67 cents a lb.

Lard oil, prime white, \$2.25 per gallon.

Cottonseed oil, bleached or olive flavor, \$1.60 gal.

Castor oil, \$2.60 per gallon.

Gum arabic, No. 1, 50-55 cents a lb.

Gum asafetida, \$1.65-\$1.80 a lb.

Camphor, \$1.00-\$1.10 a lb.

Shellac, 70-80 cents a lb.

Liquid styrax, not U. S. P., and practically of no real value, \$7-\$8 a lb.

Gum tragacanth, No. 1, \$2.60 a lb.

The above prices are given simply to indicate present conditions.

Harlem oil has not been obtainable for some months past. It is hoped every week that a shipment will be made but no one can tell when this will take place.

Hypophosphites are extremely scarce and are very much higher in price.

Licorice extract is in small supply and very high. Formerly licorice root was brought from Mesopotamia in shiploads. Now such shipments have been discontinued. Spain has been our principal source of supply. That country has made a little fortune out of this one root, the price having gone up several hundred percent and the quantities she shipped being increased in about the same proportion. Powdered extract of licorice is worth about 90 cents. Corigliana licorice is unobtainable. Select licorice root, in bundles is worth about 30 cents.

All the preparations of magnesia, including carbonate and calcined, have largely advanced.

Naphthalene this year has been selling at 15 cents a lb. for balls and 13 cents a lb. for flake. Supplies have become smaller than usual and it has been largely used in making dyes.

The oils have been more gradually affected than other prices but are gradually advancing in price. Newfoundland cod liver oil is equally as good as the Norwegian and we have discontinued handling the latter article. The present price of the best Newfoundland is \$90 per barrel.

Linseed oil has reached the imposing price of \$1.35 per gallon in barrels.

Machinery yellow olive oil has kept step with linseed oil and is worth \$1.80 per gallon in barrels.

Table olive oil of reliable quality is worth \$3.50 per gallon.

Mercury in flasks is selling about \$95 for 75 lbs. Mercurials are selling at proportionate prices.

All potassium salts remain on their high altitudes; potassium permanganate is worth about \$4.50 per lb.; yellow prussiate of potassium about \$1.25 per lb.

Roots have advanced and while the prices may ease off a little during the summer a small demand will advance them.

Mexican sarsaparilla root is extremely scarce and supplies of scammony root are largely diminished.

Senega root has been difficult to get.

The same general remarks apply to seeds. Colchicum seed, \$3.50; coriander, 35 cents; German fennel, \$1.00; flaxseed in barrels, 8 cents; foenugreek seed, ground, in bbls., 14 cents; grains of paradise seed not obtainable nominally, \$4.50 to \$5.00 lb.

The prices here quoted will give an idea of conditions.

Conti's Soap, by the box, \$12.00.

Sugar of milk is almost unobtainable in quantity. The manufacturers quote nominally in 1-lb. packages at 45 cents a lb., but can supply only in a very small way.

BRIEF SUBMITTED TO SURGEON-GENERAL W. C. GORGAS, ADVOCATING THE ESTABLISHMENT OF A PHARMACEUTICAL CORPS IN THE U. S. ARMY.*

MAJOR-GENERAL W. C. GORGAS,
Surgeon-General of the U. S. Army,
Washington, D. C.

DEAR SIR:

On July 24th last, a conference was held at your office between a board of Army medical officers composed of Col. George E. Bushnell, Majors E. P. Wolf, F. F. Russell and Stewart Maguire, and a committee of pharmacists, at which was discussed the proposition that a Pharmaceutical Corps be established as a branch of the Medical Department of the Army.

At the close of this conference, it was agreed that the undersigned should prepare for the consideration of the Surgeon-General a formal argument or brief setting forth the views of the pharmacists as to the needs for and the benefits to be obtained by the establishment of the Pharmaceutical Corps.

Pursuant to that agreement, this statement has been prepared and is presented to the Surgeon-General with the request that the facts and arguments set forth herein receive his official consideration and with the hope that the importance of increasing the efficiency of the Medical Department by the establishment of a Pharmaceutical Corps will be so impressed upon him that this proposition will merit his approval and endorsement.

PHARMACY A SCIENTIFICALLY DEVELOPED BRANCH OF MEDICINE.

The progress of the medical sciences has necessitated differentiation and specialization and this has separated modern medical practice into various branches, as medicine, surgery, dentistry, veterinary medicine and pharmacy. The pharmacist is now scientifically and systematically trained to fill a specific need of society. Upon the proper performance of the duties of the pharmacist the other practitioners of medicine are compelled to rely. Unless the drugs are properly selected and the medicines properly prepared and dispensed, their skill goes for naught. Upon the faithful and capable performance of the work of the pharmacist depends the success of the medical profession and, likewise, the lives of the patients.

American pharmacists hold a prominent position in the world development of their profession. The United States Pharmacopoeia ranks as the peer of any national pharmacopoeia. In the more recent revisions of this authority, the pharmacists have contributed very largely the chemistry, botany and pharmacognosy of the standards as well as most of the formulas contained therein. The other legal authority for medicines, the National Formulary, has been prepared entirely by a committee of the American Pharmaceutical Association. It is inconceivable that the War Department should ignore this important branch of the medical professions and to-day has not commissioned in its service a single eminent pharmacist. Pharmacy is recognized as the right arm of medicine in civil life and there is no reason why this position is lost in military duty.

The value of pharmacy as a national asset should not be lost sight of, especially in the present exigency, when it must be recognized that the success of our Nation in this war will depend upon the proper utilization of every available talent. It is just as reprehensible to waste talent as to waste materials. The former is as much the property of the citizenship as is the latter and they are entitled to its conservation and the protection which it affords.

THE SOLDIER IS THE ULTIMATE CONCERN OF THE MEDICAL DEPARTMENT.

Those in the military service of the Nation are entitled to the very best medical attention that the Government can procure. A Nation that is proclaimed as the wealthiest and as the most progressive of all nations must not assume any second place in providing means for the preservation of the health and lives of those serving in its army. The people of the United States will expect the Medical Department to adopt the most efficient methods for the conservation of the health and lives of our soldiers and for the recuperation of the unfortunate wounded.

Surgeon-General Geo. J. H. Evatt of the British Army very aptly stated: "That the Medical Department existed for the individual benefit of the soldier and if they failed in their duty to

* Mention of this brief was made in the report of Chairman S. L. Hilton of the Committee on the Status of Pharmacists in the Government Service, presented at the Indianapolis meeting, A. Ph. A., 1917.

him they were not faithfully discharging their obligation. The ultimate soldier was the person whom they all served."

DISPENSING OF MEDICINES IN THE GOVERNMENT SERVICE NOT IN ACCORDANCE WITH STATE PHARMACY LAWS.

The dispensing of potent remedial agents, whether in civil practice or in the military service, should be restricted entirely to those who have been especially educated and trained as compounders and dispensers of medicines. This principle is so thoroughly established that the States, and likewise the District of Columbia and our Insular possessions, in the exercise of their police power, have by legal enactment provided for boards of pharmacy to examine and license those to whom authority only is given to compound and dispense medicines.

The Army medical supplies necessarily include such poisonous drugs or their preparations as aconite, atropine, belladonna, cocaine, colchicum, hyoscyamus, morphine, nux vomica, opium and strophanthus. The dispensing of these in the Army is not only "done by non-commissioned officers of the Medical Department," but quite commonly by those whose lack of education and training would preclude them from the examinations of any Board of Pharmacy. Surely the soldier is entitled to pharmaceutical service and protection equal at least to that which his State provides for him in civil life.

DANGER IN FOLLOWING THE ERRORS OF THE BRITISH ARMY MEDICAL DEPARTMENT.

Unfortunately, the United States has copied the methods of the British Army Medical Department whose service has been denounced at home, as "obsolete" "incompetent" and "inefficient." Great Britain and the United States are the only two prominent nations whose army medical service does not provide for an organized pharmaceutical corps.

In England this serious defect has been forcefully pointed out and the comparisons made with the well organized and equipped medical and pharmaceutical corps of the continental armies have not been at all creditable to their home government. *The Pharmaceutical Journal and Pharmacist*, of London, in a recent editorial states: "The British Pharmaceutical Council has already been compelled to report several cases of poisoning that had occurred in hospitals because of untrained dispensers."

The investigations of the causes of the failure of the British Expedition in Mesopotamia present a most harrowing account of a horrible calamity. The intolerable suffering of the soldiers through the lack of medical attention is not only deplorable, but it is inexplicable that in a modern army, existing under the present status of medical knowledge, such a condition could possibly have occurred. Upon the insufficiency of the medical provisions and the inefficiency of the Medical Department much of the blame for the collapse of this unfortunate expedition is now officially placed. No more striking example of the danger of following obsolete methods could be presented.

READY MADE MEDICINES A SOURCE OF DANGER.

The statement has been officially made that "the pharmaceutical preparations of the Army, especially in time of war, are for the most part in tabloid form; the pharmacy is therefore a matter of dispensing rather than of compounding of preparations." This indicates that pharmacy as practiced in the U. S. Army is very elemental indeed and that even the very basic ideas of professional pharmacy are ignored. Such service must necessarily be far from being satisfactory or efficient or protective of the interests it is supposed to serve.

On the battle line and in the advanced positions, drug dispensing is necessarily limited and confined mainly to first aid. However, in the hospitals and in the convalescent homes and infirmaries treatment is given to many sufferers from disease as well as the wounded and here will be found thousands of cases requiring continuous and extensive treatment, and such cases will rapidly multiply as the war is prolonged. To seriously propose that such shall be treated with "canned medicine" in "tablet form" and denied the services of competent compounders of medicines, is certainly not in accordance with our present knowledge of what is essential to conserve life whether in time of peace or "in time of war."

Tablets are for some purposes a very convenient and useful dosage form, but for many purposes and for many medicines they are absolutely unfitted. Not infrequently, where prompt and reliable action is necessary, the conscientious physician is compelled to select some other form of medication. The most serious evil resulting from this "ready made medicine" and

tablet dosage is that too often the patient is made to fit the tablet on hand instead of a remedy being prescribed to fit the needs of the patient. There can be no question as to the superiority of the individual treatment over this method of "treatment *en bloc*." The proper method, and the ideal professional method, would be for the physician or surgeon to diagnose each case, prescribe what that patient needs at that time and to have the medicines compounded freshly and dispensed by a competent pharmacist. To do otherwise is dangerous to the life of the patient and detrimental to the medical service.

COMPARISON OF THE ARMY PHARMACEUTICAL SERVICE OF FOREIGN NATIONS WITH THAT OF THE UNITED STATES.

No one has, as yet, estimated the percentage of mortality in the Army resulting from improper and inefficient medical service. The statistics that have been compiled, however, show that in the past wars, the number of men dying from disease was many times that killed by the enemy. "During the Civil War, the Union Army lost by deaths from diseases 186,216 and 93,369 were killed." "In the Spanish-American War of 1898, only 454 Americans were killed and 5,277 died from disease."

In the Russo-Japanese War, the Japanese demonstrated the life-saving value of a scientific and systematically organized medical department, and the remarkable reduction of mortality from disease and wounds in the Japanese Army during that war attracted world-wide attention.

In the present World War, Germany reports that 87 percent of her wounded are returned to the service. This remarkable conservation of life is very properly attributed to the efficient service of her highly trained medical corps and accounts very largely for the ability of the Germans to keep up their vast armies on all the war fronts. It is reasonable to assume that a due share of the credit for this efficient hospital service is due to the German Army Pharmaceutical Corps.

The pharmaceutical service in the German Army was completely reorganized in 1902. Since that date, the pharmacists in addition to performing purely pharmaceutical duties, have been given charge of the hygienic, chemical and research laboratories of the Army and each ranking officer in the Pharmaceutical Corps must have taken the special course in certain official laboratories and have obtained a diploma as a chemist qualified to examine foods.

Each army corps has an associated sanitary corps under the control of an apothecary officer who has charge of the pharmaceutical service and supplies and is the director of the laboratory connected with that corps. Each army corps has likewise a supply depot and a manufactory of supplies which furnishes the medicines and dressings for that army corps. The medicines kept on hand for the hospitals include nearly all the official pharmaceutical preparations.

The commander of the German Army Pharmaceutical Corps is the *Oberstabsapotheker* who is attached to the Medical Section of the Prussian Minister of War and his rank is equal to that of a general of a brigade.

France has an organized Army Pharmaceutical Corps, the commander of which is called the inspector and with rank as brigadier-general. The complete organization includes the titles of principal pharmacists, pharmacists, pharmacist-majors and assistant pharmacist-majors and ranking as colonels, lieutenant-colonels, majors, captains and lieutenants. When the French peace army of 500,000 men was rapidly increased to 3,500,000 trained soldiers, the pharmaceutical corps was automatically increased from the pharmacists in reserve, many of whom had already held commissions and had experience in the sanitary corps.

In January 1915, over 1,200 of the mobilized pharmacists who had the necessary experience and training in the service, were commissioned as first class assistant pharmacist-majors ranking as lieutenants. The pharmaceutical corps in France manufactures many of the army supplies and is charged with chemical examination of water, foods, and army supplies, and a pharmacist of rank is attached to the Sanitary Council of each military district.

In Spain, as early as 1813, the Military Pharmacy Corps was promulgated. Despite the several changes and reorganizations of the Sanitary Corps that have taken place in that country since that date, the organization has been continued and its work made more comprehensive and beneficial. Its personnel comprises inspectors, sub-inspectors, pharmacist-majors, pharmacists of the first class and pharmacists of the second class and with commissioned rank from colonel to lieutenant.

In Japan, "the Army has a Sanitary Supply Department and the Director of this Department is equal in rank to a colonel, and wherever there is a barrack, it has a field hospital which

has a Department of Pharmacy, and the Director of this pharmacy is equal in rank to a lieutenant-colonel. The rank of pharmacists in the Army is from a sub-Lieutenant to a Colonel."

In the United States Army, we have No Pharmaceutical Corps Whatever. We have no pharmaceutical supervision of medicines and hospital supplies. We have no governmental manufacture of medical supplies for the Army under the supervision of trained pharmacists. We have no specially trained pharmacists to attend to the dispensing and compounding. We have absolutely nothing that bears any semblance to a modern army pharmaceutical corps.

We have it officially stated that in the United States Army "the dispensing of drugs or compounding of prescriptions is done by the non-commissioned officers of the Medical Department." Many of these, as pointed out, could not qualify to practice pharmacy in civil life. Can the United States afford to have an Army Medical Department and Service that is inferior to that of Spain or Japan? Can those in authority continue to ignore the value of the services of pharmaceutical corps in foreign armies and the potent lessons of efficient organization?

An order has just been published by the adjutant-general for the reorganization of the Army of the United States in conformity with the organization of the French Army. If we find the French models for the line troops worth following, it is reasonable to suppose that we should likewise follow their organization in the Sanitary Service including the medical and pharmaceutical corps.

EFFICIENCY OF THE MEDICAL CORPS DEMANDS PHARMACEUTICAL ASSISTANTS.

The advice of Cicero to "Let each one exercise himself in the art which he knows" is but a more ancient expression of the doctrine of "every one to his trade and the right man in the right place." This principle is the very foundation of modern efficiency which is now demanded in every occupation. War is the supreme test of a Nation's efficiency and in time of war it is of paramount importance that every man be put to that work in which he can render the most useful service to the Nation. The magnitude of modern warfare demands the most perfect organization and the most effective service, and nowhere is this of more importance than in the medical service of the Army and Navy.

Each line of activity requires specialized education and training, and to permit one branch or activity to encroach upon the special field or duty of another means national inefficiency, if not actually national suicide. To place a skilled army surgeon in charge of a medical supply depot to look after the procuring and distribution of medical and hospital supplies and the accounting thereof is, to say the least, wasteful of his special talent that may be sorely needed elsewhere. The military surgeon has more than enough to do, to attend to the strictly medical needs of the sick and wounded and to make the necessary examinations and reports.

The medical profession is now asking for higher rank for the medical corps of the Army and the increased authority that accompanies rank in the military service. Attention is likewise being directed to the need for skilled and adequate assistance and for relief from the non-medical work imposed upon the medical corps. In a recent article Dr. J. Madison Taylor writes:

"In my judgment there is grave peril that in the near future the demands upon the medical service will be so many and serious that it may break down from overwork. It is to prevent this, to anticipate, that we make the constructive suggestion, that steps be taken immediately to provide a sufficient number of assistants skilled in all those branches of service required for the Medical Corps."

"The medical man of the Army and Navy comes nearest to realizing this symbolic and wholly imaginary embodiment of omniscience, but in view of the terrific demands made upon him by modern warfare in time and work, if ever a man needed skilled and adequate assistance he is the man, and yet our Army and Navy is proceeding in the upbuilding of its medical service along the old, old lines of expecting the medical men to 'do it all.' The military service of France, Germany, Japan and other countries gives its medical men proper and sufficient assistance. We should do no less; we ought to do more."*

It is very appropriate that the medical profession, in this time of exigency, should recognize that pharmacy is the rational support of medicine and that the pharmacist, specially educated in the collateral medical sciences and skilled by years of practical training, is prepared to give that assistance and support that is needed by the Medical Corps.

* "Give the Military Surgeon Skilled and Adequate Assistance." He Cannot Do It All.—J. Madison Taylor, M.D., *New York Medical Journal*, July 21, 1917.

It is very gratifying to note that the leaders in the medical profession are outspoken in their support of pharmacy as a necessary branch of the military medical service and in favor of its proper recognition with commissioned rank.

In a recent letter to President F. J. Wulling of the American Pharmaceutical Association, President Charles H. Mayo of the American Medical Association writes:

"I was very glad to see the action taken by the House of Delegates in recommending recognition of the pharmacists, and I hope it will bear fruit in advancing the recognition of the great benefits which can be derived from the use of pharmacists in the Army service." The *Journal of the American Medical Association*, on June 16, 1917, editorially commented:

"So far as official recognition of it is concerned, the science and art of pharmacy might not exist for the Army. To-day, as never before, victory in war goes to the Nation that most effectively conserves the health of its fighting men. The physician is now of such military importance that the medical profession will be called on to make no inconsiderable sacrifices. It will materially lighten the arduous duties and responsibilities of the physician to have in the Army trained pharmacists who will be able to give intelligent coöperation. But it is imposing too great a strain on the patriotism of those whose special knowledge is obviously a large asset to the Army, to expect them to enlist as privates without any recognition of their national worth. Pharmacists should be given a rank commensurate with their importance, first because it is but simple justice to the pharmacists themselves, secondly, because the usefulness of the medical corps will be greatly augmented and, lastly, and most important, because the efficiency of our Army demands it."

THE DUTIES OF THE PHARMACEUTICAL CORPS.

In the absence of any attempt in the past to organize the pharmaceutical service in the Army the duties that might be assigned to a Pharmaceutical Corps can be only tentatively outlined. The provision of the various foreign army pharmaceutical corps will furnish excellent models for the duties of such a corps. These have been very generally followed in the fairly comprehensive line of duties stated in the bill introduced by Congressman Edmonds, entitled

"A Bill to increase the efficiency of the Medical Department of the United States Army, to provide a Pharmaceutical Corps in that department, and to improve the status and efficiency of the pharmacists in the Army." H. R. 5531.

No doubt the experience of other nations will be duplicated in that the duties assigned to the pharmaceutical corps will rapidly increase and with such increase of duties the corps will grow in usefulness and importance. Eventually, it may be placed in control of not only the providing, manufacturing and distributing of pharmaceutical and hospital supplies, but also, as in foreign countries, of the various hygienic, chemical, analytical and research laboratories of the Army.

NO RADICAL REORGANIZATION CONTEMPLATED.

The formation of a Pharmaceutical Corps in the Army Medical Department, as provided for in H. R. 5531, does not contemplate any radical changes or reorganization of the Department. By a readjustment of the regulations, the medical corps can be relieved of its burden of non-medical duties, records and accountings. The Pharmaceutical Corps should be promptly organized to take up its various duties and to coördinate its work with that of the medical, dental, veterinary and nurse corps of the military service.

Respectfully submitted,

Signed GEORGE M. BERINGER,
President National Pharmaceutical Service Association.

JOSEPH W. ENGLAND,
Member of Committee on National Defense, American Pharmaceutical Association.

PHILADELPHIA, PA.,
August 10, 1917.

EDITORIAL NOTES

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PHARMACISTS IN THE GOVERNMENT SERVICE.

While the Bill presented by Congressman Edmonds, providing for a pharmaceutical corps in the U. S. Army has not further progressed in the House, favorable comment has been made in some of the daily papers and local, state and national associations have endorsed the measure. There is opportunity now for individuals to exert their influence with senators and congressmen to promote the enactment of H. R. 5531,¹ which means more for the health and life of the soldiers than is generally appreciated. That France has strengthened the pharmaceutical corps relatively more than any other division of the French army can only emphasize that experience has taught this country the importance of the pharmacist in the military service. England, on the other hand, has had experiences which have developed criticism because this part of their military organization was not up to modern standards.

The Journal is just in receipt of a communication from Japan in which the number and rank of pharmacists in the Japanese army on peace footing are stated as follows: One colonel, 3 lieutenant-colonels, 7 majors, 30 captains, 70 first lieutenants; the number of second lieutenants is not given. Comment is made that during war, the number is largely increased, but the writer was not in position to make an authentic statement, therefore here omitted.

In connection with the report of Chairman S. L. Hilton, of the Committee on the Status of Pharmacists in the Government Service, the brief printed in this issue, p. 837 *et seq.*, is mentioned. The document presents arguments for the establishment of a pharmaceutical corps. The important thing is to have the members of congress advised on the subject so they may study the proposition. If our own experiences are considered and those of England in connection with the promotion

in European armies, there can seemingly be only one conclusion and that is, to give our soldiers the very best possible protection and have our military organizations efficient in every respect. That recognition by rank be accorded to pharmacists does not weaken the argument, this is essential for efficient service and thoroughly in line with military organization. The pharmaceutical corps is to be part of the army medical department and under the supervision of the Surgeon-General. Resolutions have gone forward from various cities importuning their respective congressmen to familiarize themselves with the objects of the Edmonds' Bill, so that their vote will not be based on favor or prejudice, but knowledge. This is not an implication, but an expression, of the realization that the urgent need of right pharmaceutical service in military organizations is not fully appreciated, some even think that this has been provided for, and therefore the facts must be brought to the legislator's attention.

RED CROSS EMERGENCY HOSPITAL CARS.

The Medical Advisory Committee of the Red Cross War Council has decided to equip five laboratory railroad cars which will be prepared for emergency work against possible outbreaks of epidemics in cantonment camps in this country. Each car will have a staff of five or more experts, and will be so stationed at various cities that any cantonment can be reached with one of these laboratory cars within 24 hours on receipt of request from Federal or State authorities.

FOREIGN PATENTS AND TRADE-MARKS.

The trading with the enemy bill was reported to the Senate by the Committee on Commerce August 24, with two amendments added by the senate committee. One authorizes the Federal Trade Commission to

¹ See page 762, August issue of the JOURNAL A. PH. A.

fix prices when licenses are granted to use an enemy patent, trademark, print, label, or copyright, and the other authorizes the Commissioner of Patents to enforce secrecy in regard to any invention which may, in his opinion, be detrimental to the public safety or defense. The bill was broadened in its scope so as to apply to trademarks, prints, and labels, the property of enemy owners, as well as to patents owned in an enemy country.

BOTANICAL RAW PRODUCTS COMMITTEE OF NATIONAL RESEARCH COUNCIL.

The Botanical Raw Products Committee

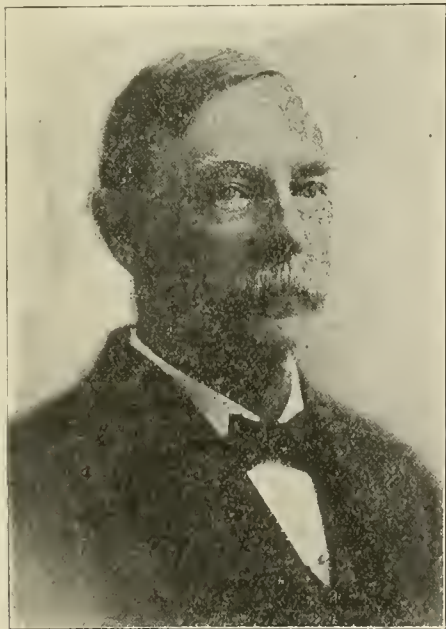
of the National Research Council is seeking active coöperation in the work undertaken by them. Headquarters of the committee have been established at Harvard University and agricultural, botanical and commercial data have been collected on all species and varieties of plants, exclusive of food staples, having an economic value. Its aim is to supply manufacturers with information along these lines, to investigate requirements of the trade for known raw materials, to discover new geographic sources of plants necessary to trade, and to investigate the value of equivalents and substitutes for products now in use.

OBITUARY.

JOHN C. OTIS.

BORN 1856—DIED AUGUST 24, 1917.

Again, Grim Death, in the guise of a merciful agent, has invaded our ranks by taking away our friend and counselor, Dr. John C. Otis.



JOHN C. OTIS

Dr. Otis received his early education in the Cincinnati schools and then entered St. Xavier College of Cincinnati, from which institution he graduated with honors. His

chosen profession was Pharmacy, and during his career he successfully operated stores at Fourth and Vine Streets, Fifth and Vine Streets, Sixth and Vine Streets and Ninth and Vine Streets, Cincinnati.

His early entrance to the study of Medicine enabled him to obtain his degree of M.D. from the Ohio Medical College, which stood him in good stead during his life's endeavor.

His political career culminated in his election to represent his district in the Ohio General Assembly, while in civic and municipal affairs he was always counted upon as a factor.

To show his interest in Pharmacy, he represented the Cincinnati College of Pharmacy as its President for the last ten years; he was a member of the Cincinnati Branch, A.Ph.A., as well as the parent body, and tried in every way to be an advocate of progressive Pharmacy.

The Benevolent Order of Elks honored him with a Life Membership, while his many friends regret the loss of a man of true fellowship. Dr. Otis is survived by his widow and three daughters.

CHARLES A. APMEYER.

JOHN S. MUTH.

John Sebastian Muth, junior partner of Muth Bros. & Co., wholesale druggists of Baltimore, died early on the morning of August 31, after an illness of more than a year of a complication of diseases. Mr. Muth's health began to fail several years ago, in reality, the first symptoms being those of

arterio sclerosis. Heart trouble also developed, and his condition gradually grew worse. For many months he had not been able to do any work at all. He was born in Baltimore 51 years ago, being a son of the late Michael Joseph Muth, one of three brothers who founded the firm of Muth Bros. After leaving Calvert Hall College he entered the establishment of the firm, and in course

of time became a partner, succeeding his father. He was widely known and had a host of friends. His amiable disposition endeared him to all who met him, and his demise is sincerely mourned. He was essentially domestic in his tastes and gave freely to charities. His wife and four children survive. Mr. Muth joined the American Pharmaceutical Association in 1898.

SOCIETIES AND COLLEGES.

REGISTRATION LIST OF THE SIXTY-FIFTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, AUGUST 27 TO SEPTEMBER 1, 1917, INDIANAPOLIS, IND.

William C. Anderson, Brooklyn, N. Y.
Mrs. W. C. Anderson, Brooklyn, N. Y.
Chas. A. Apmeyer, Cincinnati, O.
H. V. Army, New York, N. Y.
C. H. Avery, Chicago, Ill.

W. C. Bartholomew, Indianapolis, Ind.
Mrs. W. C. Bartholomew, Indianapolis, Ind.
J. M. Barrett, Indianapolis, Ind.
Geo. M. Beringer, Camden, N. J.
Mrs. G. M. Beringer, Camden, N. J.
Miss Elva Beringer, Camden, N. J.
Francis E. Bibbins, Indianapolis, Ind.
Mrs. F. E. Bibbins, Indianapolis, Ind.
R. B. Bird, Winfield, Kan.
L. G. Blakeslee, St. Louis, Mo.
Mrs. C. Blakeslee, Indianapolis, Ind.
Edward Bloomfield, Louisville, Ky.
Albert Bolenbaugh, Richmond, Va.
G. H. Boone, Louisville, Ky.
Mrs. G. H. Boone, Louisville, Ky.
H. S. Browne, Norman, Okla.
Mortimer Byc, Detroit, Mich.
J. H. Beal, Urbana, Ill.
G. D. Beal, Urbana, Ill.
Harry J. Borst, Indianapolis, Ind.
Mrs. H. J. Borst, Indianapolis, Ind.
C. F. Booth, Buffalo, N. Y.
Theo. J. Bradley, Boston, Mass.
Miss Grace Bradley, Boston, Mass.
M. J. Branson, Indianapolis, Ind.
Arthur F. Brown, Indianapolis, Ind.
R. P. Blodau, Indianapolis, Ind.

W. A. Caperton, Indianapolis, Ind.
Chas. E. Caspari, St. Louis, Mo.
Burton Cassidy, West Terre Haute, Ind.
H. C. Christensen, Chicago, Ill.
Mrs. H. C. Christensen, Chicago, Ill.
Dr. Otto F. Claus, St. Louis, Mo.

Mrs. O. F. Claus, St. Louis, Mo.
Miss Zada M. Cooper, Iowa City, Ia.
W. H. Cousins, Dallas, Texas.
John Culley, Ogden, Utah.
G. L. Curry, Louisville, Ky.
F. W. Casey, Lansing, Mich.
Frank H. Carter, Indianapolis, Ind.
Mrs. Frank H. Carter, Indianapolis, Ind.
A. H. Clark, Chicago, Ill.

William E. Danhaner, Owensboro, Ky.
Wm. B. Day, Chicago, Ill.
Miss Helen Day, Chicago, Ill.
Miss Charlotte Day, Chicago, Ill.
W. L. DeWoody, Pine Bluff, Ark.
Mrs. W. L. DeWoody, Pine Bluff, Ark.
Geo. C. Diekman, New York, N. Y.
Jacob Diner, New York, N. Y.
Oscar C. Dilly, Louisville, Ky.
Addison Dimmitt, Louisville, Ky.
R. A. Doyle, East Prairie, Mo.
M. F. Dorgan, Atlanta, Ga.
Dr. Byron F. Dawson, Akron, Ind.
Dr. O. S. Deitch, Indianapolis, Ind.
Charlotte Dubois, Catskill, N. Y.
Wm. L. Dubois, Catskill, N. Y.
C. A. Dye, Columbus, Ohio.
Mrs. C. A. Dye, Columbus, Ohio.

E. G. Eberhardt, Indianapolis, Ind.
E. G. Eberle, Philadelphia, Pa.
Mrs. E. G. Eberle, Philadelphia, Pa.
C. R. Eckler, Indianapolis, Ind.
Mrs. C. R. Eckler, Indianapolis, Ind.
C. L. Eddy, New York, N. Y.
Chas. W. Eismann, Cincinnati, Ohio.
Frank R. Eldred, Indianapolis, Ind.
Mrs. F. R. Eldred, Indianapolis, Ind.
Joseph W. England, Philadelphia, Pa.
Mrs. J. W. England, Philadelphia, Pa.

- H. Engelhardt, Baltimore, Md.
Robert B. Etter, Indianapolis, Ind.
O. A. Farwell, Detroit, Mich.
W. W. Figgis, New York, N. Y.
F. B. Fisk, Indianapolis, Ind.
C. M. Ford, Cambridge, Mass.
J. F. Frames, Baltimore, Md.
H. C. Fuller, Washington, D. C.
Chas. Falkenhainer, Dubuque, Iowa.
Chas. T. P. Fennel, Cincinnati, Ohio.
Robert P. Fischelis, Philadelphia, Pa.
Wm. M. Fouch, Baltimore, Md.
J. M. Francis, Detroit, Mich.
J. W. Gayle, Frankfort, Ky.
W. F. Gidley, West Lafayette, Ind.
Mrs. W. F. Gidley, West Lafayette, Ind.
Chas. Gietner, St. Louis, Mo.
J. G. Godding, Boston, Mass.
Mrs. J. G. Godding, Boston, Mass.
T. D. Gregg, Harrisburg, Ill.
W. G. Gregory, Buffalo, N. Y.
E. N. Gathercoal, Chicago, Ill.
W. E. Gifford, New York, N. Y.
Wm. H. Glover, Lawrence, Mass.
Wm. Gray, Chicago, Ill.
Ivor Griffith, Philadelphia, Pa.
J. A. Handy, Buffalo, N. Y.
W. F. Hankey, Cleveland, Ohio.
H. L. Harris, New York, N. Y.
H. L. Haussamen, Grafton, N. D.
Chas. H. Holzhaner, Newark, N. J.
Mrs. C. H. Holzhaner, Newark, N. J.
Robert K. Holzhaner, Newark, N. J.
Francis Hemm, St. Louis, Mo.
P. L. Hess, Kansas City, Mo.
S. L. Hilton, Washington, D. C.
A. J. Holmes, Indianapolis, Ind.
Mrs. A. J. Holmes, Indianapolis, Ind.
L. C. Hopp, Cleveland, Ohio.
E. V. Howell, Chapel Hill, N. C.
G. W. Hubbard, Nashville, Tenn.
W. S. Hubbard, Detroit, Mich.
Alfred Husted, Delmar, N. Y.
Mrs. Alfred Husted, Delmar, N. Y.
Chas. H. Huhn, Minneapolis, Minn.
Sidney Hauenstein, Bluffton, Ohio.
L. D. Havenhill, Lawrence, Kans.
Samuel C. Henry, Philadelphia, Pa.
Jeanot Hostmann, Hoboken, N. J.
H. H. Hoffman, Sandusky, Mich.
J. N. Hurty, Indianapolis, Ind.
J. C. Hutzell, Fort Wayne, Ind.
Orel Jones, Oconto, Nebr.
Mrs. Orel Jones, Oconto, Nebr.
C. B. Jordan, Lafayette, Ind.
Mrs. C. B. Jordan, Lafayette, Ind.
J. E. Justice, Clarksville, Tenn.
J. E. Jackson, Tazewell, Va.
Hugo Kantrowitz, New York, N. Y.
S. S. Kaplan, Hammond, Ind.
August Kassulke, Indianapolis, Ind.
L. F. Kebler, Washington, D. C.
B. M. Keene, Indianapolis, Ind.
J. A. Koch, Pittsburgh, Pa.
Florence Koch, Pittsburgh, Pa.
C. S. Koon, Muskegon, Mich.
Henry Kraemer, Philadelphia, Pa.
Mrs. Jean M'Kee Kenaston, Bonesteel, S. D.
E. J. Kennedy, New York, N. Y.
E. F. Kelly, Baltimore, Md.
Ernest Kimmich, Detroit, Mich.
Edward Kremers, Madison, Wis.
J. F. Kobylanski, Cleveland, Ohio.
Chas. O. Lee, Lafayette, Ind.
L. C. Lewis, Tuskegee, Ala.
L. L. Lord, West New Brighton, N. Y.
Mrs. L. L. Lord, West New Brighton, N. Y.
Rufus A. Lyman, Lincoln, Nebr.
C. H. Lawall, Philadelphia, Pa.
Mrs. C. H. Lawall, Philadelphia, Pa.
Eli Lilly, Indianapolis, Ind.
J. K. Lilly, Indianapolis, Ind.
Chas. MacGregor, Detroit, Mich.
H. D. MacWilliams, Washington, Ind.
Mr. E. W. May, Martinsville, Ind.
Mrs. E. W. May, Martinsville, Ind.
F. C. Mayer, Milwaukee, Wis.
H. L. Meredith, Hagerstown, Md.
Chas. G. Merrell, Cincinnati, Ohio.
J. B. Messinger, Cairo, Ill.
R. V. Miersch, Louisville, Ky.
J. L. Miller, Indianapolis, Ind.
William Mittelbach, Boonville, Mo.
N. R. Mueller, Madison, Wis.
John L. Mauk, Indianapolis, Ind.
C. A. Mayo, New York, N. Y.
T. L. McMoines, Chicago, Ill.
T. E. Mollet, Missoula, Mont.
O. J. Nance, Jackson, Tenn.
H. S. Noel, Indianapolis, Ind.
Mrs. H. S. Noel, Indianapolis, Ind.
M. Noll, Atchison, Kan.
F. W. Nitardy, Denver, Col.
Geo. D. Newcomb, Creston, Iowa.
H. C. Newton, Omaha, Neb.
E. H. Niles, Indianapolis, Ind.
J. M. Noble, St. Louis, Mo.
G. F. Payne, M.D., Atlanta, Ga.
Mrs. G. F. Payne, Atlanta, Ga.

- Gladys Payne, Atlanta, Ga.
 Edward L. Pilck, Covington, Ky.
 C. S. Porter, Lexington, Ky.
 W. P. Porterfield, Fargo, N. D.
 H. E. Purdy, Derby, Conn.
 Mrs. H. E. Purdy, Derby, Conn.
 C. H. Packard, Boston, Mass.
 J. C. Peacock, Philadelphia, Pa.
 Mrs. J. C. Peacock, Philadelphia, Pa.
 Romaine Pierson, New York, N. Y.
 Paul S. Pittenger, Philadelphia, Pa.
 Mrs. P. S. Pittenger, Philadelphia, Pa.
 J. A. Pool, Redfield, S. D.
 M. K. Pruyn, Indianapolis, Ind.
 Mrs. M. K. Pruyn, Indianapolis, Ind.
 D. W. Ramsaur, Palatka, Fla.
 H. W. Rhodhammel, Indianapolis, Ind.
 Mrs. H. W. Rhodhammel, Indianapolis, Ind.
 F. G. Rieger, Donaldsonville, La.
 Alex. M. Rovin, Detroit, Mich.
 W. F. Rudd, Richmond, Va.
 H. C. Ruenzel, Milwaukee, Wis.
 D. C. Rector, Indianapolis, Ind.
 A. M. Rochrig, Buffalo, N. Y.
 W. H. Rudder, Salem, Ind.
 E. A. Ruddiman, Nashville, Tenn.
 Mrs. E. A. Ruddiman, Nashville, Tenn.
 Miss Ruddiman, Nashville, Tenn.
 Louis Saalbach, Pittsburgh, Pa.
 O. W. Schaefer, Cincinnati, Ohio.
 W. A. Scheddell, Crown Point, Ind.
 A. F. Schlichting, Fargo, N. D.
 W. L. Scoville, Detroit, Mich.
 R. W. Showalter, Indianapolis, Ind.
 Mrs. R. W. Showalter, Indianapolis, Ind.
 M. P. Schwartz, Indianapolis, Ind.
 Mrs. M. P. Schwartz, Indianapolis, Ind.
 J. E. Seybert, Indianapolis, Ind.
 Mrs. J. E. Seybert, Indianapolis, Ind.
 H. N. Siegenthaler, Springfield, Ohio.
 Mrs. H. N. Siegenthaler, Springfield, Ohio.
 Chas. H. Skinner, Windsor, Vt.
 F. W. Smith, Poplarville, Miss.
 Edgar R. Sparks, Burlington, N. J.
 L. J. Stabler, Los Angeles, Cal.
 F. E. Stewart, Philadelphia, Pa.
 W. W. Stockberger, Washington, D. C.
 C. H. Stocking, Indianapolis, Ind.
 F. A. Southard, Cincinnati, Ohio.
 J. W. Stokes, Indianapolis, Ind.
 Mrs. J. W. Stokes, Indianapolis, Ind.
 J. Walter Stokes, Indianapolis, Ind.
 Mrs. J. Walter Stokes, Indianapolis, Ind.
 E. W. Stucky, Indianapolis, Ind.
 Mrs. E. W. Stucky, Indianapolis, Ind.
 E. A. Stuckmeyer, Indianapolis, Ind.
 A. L. Suter, Louisville, Ky.
 F. W. Sultan, St. Louis, Mo.
 Dr. Julio Samper, Indianapolis, Ind.
 S. K. Sass, Chicago, Ill.
 L. E. Sayre, Lawrence, Kan.
 Mrs. L. E. Sayre, Lawrence, Kan.
 Frank Schachleiter, Little Rock, Ark.
 C. M. Snow, Chicago, Ill.
 Mrs. C. M. Snow, Chicago, Ill.
 Miss Elizabeth Southard, Cincinnati, Ohio.
 Edward Spease, Cleveland, Ohio.
 M. A. Stout, Bluffton, Ind.
 Mrs. M. A. Stout, Bluffton, Ind.
 W. J. Teeters, Iowa City, Iowa.
 A. D. Thorburn, Indianapolis, Ind.
 Mrs. A. D. Thorburn, Indianapolis, Ind.
 I. E. Taylor, Indianapolis, Ind.
 E. S. Thatcher, Milwaukee, Wis.
 Mrs. E. S. Thatcher, Milwaukee, Wis.
 John B. Thomas, Baltimore, Md.
 G. D. Timmons, Valparaiso, Ind.
 Mrs. G. D. Timmons, Valparaiso, Ind.
 Miss Margaret Timmons, Valparaiso, Ind.
 J. E. Turner, Brooklyn, N. Y.
 P. H. Utech, Meadville, Pa.
 Mrs. P. H. Utech, Meadville, Pa.
 A. H. Vordick, St. Louis, Mo.
 C. W. Watkins, Indianapolis, Ind.
 Mrs. C. W. Watkins, Indianapolis, Ind.
 Frank W. Ward, Memphis, Tenn.
 Dr. H. M. Whelpley, St. Louis, Mo.
 Mrs. H. M. Whelpley, St. Louis, Mo.
 Walter H. White, Pensacola, Fla.
 W. R. White, Nashville, Tenn.
 Curt P. Wimmer, New York, N. Y.
 John S. Wright, Indianapolis, Ind.
 John C. Wallace, New Castle, Pa.
 A. L. Walters, Indianapolis, Ind.
 Mrs. A. L. Walters, Indianapolis, Ind.
 L. E. Warren, St. Louis, Mo.
 Carl Wharton, Gadsden, Ala.
 E. A. Wildman, Indianapolis, Ind.
 W. G. Willman, Brownsville, Texas.
 E. H. Wisner, Valparaiso, Ind.
 C. M. Woodruff, Detroit, Mich.
 F. J. Wulling, Minneapolis, Minn.
 Mrs. F. J. Wulling, Minneapolis, Minn.
 Emerson Wulling, Minneapolis, Minn.
 Dr. W. H. Zeigler, Charleston, S. C.
 Mrs. W. H. Zeigler, Charleston, S. C.
 Theo. Zimmermann, Terre Haute, Ind.
 Mrs. Theo. Zimmermann, Terre Haute, Ind.
 Adolph Ziefle, Corvallis, Ore.
 Mrs. Adolph Ziefle, Corvallis, Ore.

NATIONAL COMMITTEE ON THE
PHARMACEUTICAL SYLLABUS.
BULLETIN XI.

BOSTON, MASS., August 15, 1917.

The Committee will meet at the Claypool Hotel, Indianapolis,* during the Convention of the American Pharmaceutical Association, in the week beginning August 27, 1917, at a time to be announced at Indianapolis. It is necessary that there be a full attendance, as work must begin on the next revision of the *Syllabus* if it is to be issued in 1919 for use in 1920 and thereafter, as expected.

The Committee now has the following membership:

Term Expires.	From American Pharmaceutical Association.
1917	Willis G. Gregory, Buffalo, N. Y.
1918	P. Gerhard Albrecht, Cleveland, Ohio.
1919	Charles Caspari, Jr., Baltimore, Md.
1920	Eugene G. Eberle, Philadelphia, Pa.
1921	Harry B. Mason, Detroit, Mich.
1922	George M. Beringer, Camden, N. J.
1923	Henry H. Rusby, New York, N. Y.

	From National Association of Boards of Pharmacy.
1917	John W. Gayle, Frankfort, Ky.
1918	William H. Rudder, Salem, Ind.
1919	George C. Diekman, New York City.
1920	Mason C. Beebe, Burlington, Vt.
1921	John Culley, Ogden, Utah.
1922	Ellis E. Faulkner, Delton, Mich.
1923	Charles H. Skinner, Windsor, Vt.

	From American Conference of Pharmaceutical Faculties.
1917	James H. Beal, Urbana, Ill.
1918	Charles W. Johnson, Seattle, Wash.
1919	Clement B. Lowe, Philadelphia, Pa.
1920	William C. Anderson, Brooklyn, N. Y.
1921	Julius A. Koch, Pittsburgh, Pa.
1922	Theodore J. Bradley, Boston, Mass.
1923	Clyde M. Snow, Chicago, Ill.

Respectfully submitted,

WILLIS G. GREGORY,
Chairman.

THEODORE J. BRADLEY,
Secretary-Treasurer.

THE AMERICAN CONFERENCE OF
PHARMACEUTICAL FACULTIES.

The eighteenth annual meeting of the American Conference of Pharmaceutical Faculties was held in Indianapolis, August 27 and 28.

A few of the recommendations of President R. A. Lyman are presented.

That a four-year High School requirement become binding upon schools of the Conference, September 1, 1920.

This was amended by striking out September 1920, and substituting September 1, 1923, and adopted as amended.

That it be the sense of the Conference that Mr. Fairchild could render the greatest service to Pharmacy by offering his scholarship to a senior pharmacy student, in order that he might pursue some research problem for one full school year, in the school of his choice; and further, that this scholarship be awarded on the basis of the applicant's scholastic training, his standing as an undergraduate pharmaceutical student and upon his fitness to do research.

This was adopted and afterwards approved in joint session by the Conference, the National Association of Boards of Pharmacy and the Section on Education and Legislation, A. Ph. A.

INVESTIGATION AND STANDARDIZATION OF
SCHOOLS OF PHARMACY.

That the Executive Committee be directed to present this matter to the Carnegie Foundation, and if this Foundation refuses to take it up, to discover some other method of investigating and classifying so as to accomplish a similar result and to report at the next annual meeting.

That the Committee on Relations of Colleges with Boards be instructed to express the above view as the sentiment of the Conference, and that this committee, in conjunction with the proper committee of the Boards, be requested to devise or discover a plan which can be developed, that will render justice to all, and that progress in the matter be reported as early as possible.

THE MATTER OF APPRENTICESHIP.

This was disposed of by a motion that a committee of the Conference, in conjunction with the proper committee of the Boards, be requested to devise a plan that will render justice to all concerned in the matter of apprenticeship.

The officers elected for the coming year are as follows: *President*, Henry Kraemer,

* The meeting was held in Indianapolis and is printed here for a record of the Committee's activities.

Ann Arbor, Mich.; *Vice-President*, Charles E. Caspari, St. Louis; *Secretary-Treasurer*, T. J. Bradley, Boston; *Chairman Executive Committee*, J. A. Koch, Pittsburgh; *Members of Executive Committee*, R. A. Lyman, Lincoln, and F. J. Wulling, Minneapolis; *Member of Syllabus Committee*, A. Bolenbaugh, Richmond.

THE NATIONAL ASSOCIATION OF BOARDS OF PHARMACY.

The National Association of Boards of Pharmacy met in Indianapolis, August 27 and 28, with Lawrence C. Lewis, of Tuskegee, Ala., the President, presiding. The Association also held joint sessions with the American Conference of Pharmaceutical Faculties, and on Friday following, with the latter body and the Section on Education and Legislation, A. Ph. A.

Secretary H. C. Christensen reported on his activities during the year, having visited in fourteen states; the report was full of interest and showed that such visitations stimulate the Boards for greater efficiency. The Secretary was able to report greater uniformity in the conduct of examinations.

The Executive Committee made favorable comment on the work of Secretary Christensen and aided in the results of a successful year.

Since last meeting the following states have been added to the list of active members: Colorado, Nevada, Pennsylvania and South Carolina, bringing the total up to forty.

The states holding "Associate" membership, in which Boards of Pharmacy are favorable to reciprocity but where conditions will not at present permit active membership in the N. A. B. P. are: New Jersey, New York and North Carolina. This makes a total of 43 states that are affiliated with the N. A. B. P., leaving only five states entirely outside the fold and several of these are known to be in a receptive mood for membership as soon as conditions will permit.

Illinois, Iowa and South Carolina succeeded in the past year in having prerequisite amendments enacted requiring graduation from recognized schools or colleges of pharmacy. In the majority of states preliminary education demands have also been increased during the past year, some by rulings of the boards and others through statutory requirements. This advancement shows the desired ten-

dency to exact the preliminary requisite of high school graduation of candidates for examination.

The increase of fees adopted at the last meeting has resulted in a healthy condition of the treasury, which will enable the Association to successfully carry on their work.

On the recommendation of the Executive Committee, at its meeting last Spring, the printing of the Proceedings of the 1915 and 1916 annual meetings was postponed until such time as the condition of the finances would warrant the expense; now both Proceedings are in the hands of printers, and one of them completed.

The consensus of opinion was that the present arrangement for holding meetings of the Association was satisfactory.

The following officers were elected: *President*, W. P. Porterfield, Fargo, N. D.; *First Vice-President*, J. A. Weeks, Ballinger, Tex.; *Second Vice-President*, W. R. Jarrett, Oklahoma City; *Third Vice-President*, D. E. Had- don, Alta, Ia.; *Secretary*, H. C. Christensen, Chicago; *Treasurer*, Charles H. Skinner, Windsor, Vt.; *Members of the Executive Committee*, John Culley, Ogden, Utah, and H. E. Purdy, Derby, Conn.

THE NATIONAL ASSOCIATION OF RE- TAIL DRUGGISTS.

The annual convention of the National Association of Retail Druggists will be held in Cleveland September 17-21. The promises are good for a large meeting and an interesting program. The resignation of Secretary Thos. H. Potts will necessitate the election of some one to succeed this well and favorably known official.

The official souvenir program of the Cleveland convention is to be a handsomely bound portfolio of more than sixty pages, containing, besides the business program and entertainment program of the convention conveniently arranged, also portraits of national and local drug celebrities, useful information for visitors, and a readable illustrated sketch of the beginnings and the development of Cleveland from its founding to the present time.

NATIONAL WHOLESALE DRUGGISTS' ASSOCIATION.

Such has been the interest shown in the coming convention of the National Wholesale Druggists' Association convention at Chicago,

October 1-4, that Secretary F. E. Holliday and the Committee on Arrangements are urging early reservation of rooms at the Congress Hotel, should such reservations not have been made. William Buss, with the Fuller-Morrisson Company, will receive such applications.

From reports received from all parts of the country it is believed that the attendance at the convention will be the largest yet registered, the peculiar conditions existing at present because of the war, and the many problems facing the wholesale druggists tending to make the discussion and the business to be considered of supreme importance.

The following program has been announced:

Monday, October 1.

10 A.M.—Opening session.

2 P.M.—Second session.

9 P.M.—President's reception in Gold Room, Congress Hotel, followed by dance and buffet supper.

Tuesday, October 2.

9.30 A.M.—Third session.

11.30 A.M.—Automobile ride. Tour of boulevard system.

2 P.M.—Luncheon at South Shore Country Club, followed by cards and dancing.

3.30 P.M.—Fourth session.

7.30 P.M.—Informal meeting wholesale druggists.

9 P.M.—Informal dance and buffet supper.

Wednesday, October 3.

10 A.M.—Fifth session N. W. D. A.

2 P.M.—Informal meeting wholesale druggists.

2 P.M.—Ladies' card party.

8 P.M.—Theatre party.

Thursday, October 4.

10 A.M.—Sixth session.

2 P.M.—Seventh session.

8 P.M.—Banquet, with addresses by officers and two invited speakers of national distinction.

NORTH DAKOTA PHARMACEUTICAL ASSOCIATION.

The thirty-second annual meeting of the North Dakota Pharmaceutical Association was held at Grand Forks, August 7-9. Price maintenance was an important topic of the convention, and loyalty to the Government was emphasized in President Bradley's address. Three thousand dollars worth of Liberty Bonds were purchased by the Association. The following officers were elected:

President, Peter Mergens, of Fairmont; *Vice-Presidents*, J. H. Vold, of Grand Forks, and H. L. Hill, of Sutton; *Secretary-Treasurer*, W. S. Parker, of Lisbon (re-elected); *Members of the Executive Committee*, Max Strehlow, of Kindred, Roy Cook, of Fargo, and E. A. Engbretson, of Devil's Lake.

The 1918 meeting will be held at Fargo.

SOUTH DAKOTA PHARMACEUTICAL ASSOCIATION.

The South Dakota Pharmaceutical Association met in thirty-second annual convention at Watertown, August 15-17. The prohibition law was considered and business topics including price maintenance measures were subjects of President Pool's address and of several papers. Loyalty was in evidence; a Red Cross ambulance was presented to the state by the Association. D. F. Jones presented a report on medicinal plants of South Dakota, dwelling particularly on Triticum, which grows here in abundance. About 40 plants received consideration.

The following officers were elected: *President*, Fred Vilas, Pierre; *First Vice-President*, Perry Clute, Big Stone City; *Second Vice-President*, W. W. Paige, Steel; *Secretary*, E. C. Bent, Dell Rapids; *Treasurer*, A. A. Woodward, Aberdeen; *Local Secretary*, F. W. Brown, Lead.

SCHOOL OF PHARMACY, UNIVERSITY OF MICHIGAN.

Henry Kraemer, Ph.D., for many years professor of pharmacognosy in the Philadelphia College of Pharmacy, has been elected to succeed the late Prof. J. O. Schlotterbeck in the School of Pharmacy of the University of Michigan. Professor Kraemer is known to the members, not only through his former association, his valuable contributions to the proceedings of the American Pharmaceutical Association, but also as author of several works on Pharmacognosy and Botany.

NEW JERSEY COLLEGE OF PHARMACY (NEWARK).

The New Jersey College of Pharmacy has established a new dispensing laboratory, provided with eight individual modern prescription counters fully equipped. Prof. Otto Raubenheimer has been elected head of this department.

HIGHLAND PARK COLLEGE OF PHARMACY.

Highland Park College of Pharmacy announces that Floyd R. Johnson, of Owen, Wis., has been awarded membership prize in the

American Pharmaceutical Association for proficiency in Dispensing and Manufacturing Pharmacy and to Lester W. Wilke, of Gornavello, Ia., for proficiency in Organic Chemistry.

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of the change of address is received before shipment or mailing.

Both the old and the new address should be given thus:

HENRY MILTON,

From 2342 Albion Place, St. Louis, Mo.

To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

CHANGE OF ADDRESSES SINCE JULY 18, 1917.

STOUT, MARION A.,

From 128 Wabash, Bluffton, Ind.

To 1213 Peoples Gas Bldg., Chicago, Ill.

LENOCKER, W. PAUL,

From Brookings, S. Dak.

To 161 W. Miles Ave., Huntington Park, Cal.

COLLINS, A. R.,

From 333 University Ave., Missoula, Mont.

To Residence unknown.

TYLER, EARL A.,

From 70 W. 68th St., New York, N. Y.

To 5 Bryant Terrace, Rahway, N. J.

THURSTON, AZOR,

From 192 Eighth Ave., Columbus, Ohio.

To 320 Seventeenth Ave., Columbus, Ohio.

FERNANDEZ, A. C.,

From Gaonao, Cienfuegos, Cuba.

To Residence Unknown.

ORTIZ, A.,

From Havana, Cuba.

To Residence Unknown.

GAKIDIS, GEO. P.,

From 779 Tremont St., Boston, Mass.

To Residence Unknown.

SHEEHY, M. WM.,

From National Military Hosp., Dayton, Ohio.

To Residence Unknown.

SHARKANSKY, E. L.,

From 121 Cottage St., Fall River, Mass.

To 15 Rutland Sq., Boston, Mass.

MCKENZIE, R. H.,

From 1701 Lawrence St., Denver, Colo.

To 2340 Dahlia St., Denver, Colo.

MAHONEY, W. A.,

From 3 Lauderdale Apt., Jacksonville, Fla.

To 1423 Forbes St., Jacksonville, Fla.

WHITE, J. L.,

From Residence Unknown.

To Montgomery St., San Francisco, Cal.

BROWN, FRANK S.,

From State and Fifth Sts., Bristol, Tenn.

To Telford, Tenn.

GOHEEN, IRA LEE,

From Alta Vista, Kans.

To 829 Blunt St., Clay Center, Kans.

WILLIAMS, ED.,

From 1 W. Main St., Madison, Wis.

To Gay Building, Madison, Wis.

HAZELDINE, EARL L.,

From Selby, S. Dak.

To Lead, So. Dak.

SMITH, WM. E.,

From Gen. Mgr. Helena Drug Co., Helena.

Mont.

To Residence Unknown.

GASEN, H.,

From Litchfield, Ill.

To Residence Unknown.

CHARLES, C. J. L.,

From Cash and 6th St., Colon, Rep. of

Panama.

To Residence Unknown.

DECEASED SINCE JULY 18, 1917.

GRIMARY, DR. F.,

Santiago de Cuba, Cuba

KIRKLAND, D.,

Los Angeles, Cal.

THOMPSON, A. D.,

Minneapolis, Minn.

CHARLES CASPARI, JR.

BALTIMORE, MD.

Permanent Secretary of the American Pharmaceutical Association, 1894-1896 and
General Secretary, 1896-1911



CHARLES CASPARI, JR.

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. VI

OCTOBER, 1917

NO. 10

CHARLES CASPARI, JR.

Charles Caspari, Jr., is of direct German descent for several hundred years back. His father, Charles Caspari, was born at Hanover, Germany, in 1813 and studied pharmacy, materia medica and chemistry, under Wochler at the University of Goettingen in 1835 to 1837. He conducted a pharmacy in Germany and was one of those who emigrated to this country in 1848 on account of political reasons. He came directly to Baltimore and established there the first German pharmacy, which he continued to operate until his death in 1870, when Charles Caspari, Jr., had not yet been married. The senior Caspari joined the American Pharmaceutical Association at the Baltimore meeting in 1856 and his signature appears in the old copy of the constitution of the Association.

The subject of this sketch was born in Baltimore, Md., on May 31, 1850 and has lived there continuously ever since. His liberal education was received in private schools and was considered complete when he had reached the age of fifteen years. It is rather significant that at that age he was thoroughly familiar with English, French, German, Latin and Greek as well as with Mathematics and that in this he was no exception, while today there is a feeling extant in the educational circles of this country that children have been pushed too rapidly at school and as a matter of fact, it is refreshing to find a young man of twenty who speaks English correctly, to say nothing of other linguistic accomplishments. In 1865, he first entered the drug business as apprentice to Sharp and Dohme in their retail store at the munificent salary of seventy-five dollars a year. In 1869, he graduated from the Maryland College of Pharmacy and, after the death of his father in 1870, he went into the retail drug business for himself and remained in it until 1891, when he disposed of his last drug store. During the year 1876 to 1877 he traveled for Sharp and Dohme going as far west as Lincoln, Nebraska. In 1879, he was appointed to the chair of Pharmacy in the Maryland College of Pharmacy, a position which he has filled continuously to date. In 1883, he joined the American Pharmaceutical Association and in 1894, after the death of Professor Maisch, was made its secretary, a position which he retained until 1911, when he resigned. In July 1910, he was requested to accept the Food and Drug Commissionership of Maryland, an office which he still fills. From 1915 to 1917 he lectured on Pharmacy at the Johns Hopkins University Medical School, but, on account of ill health, he has been compelled to give up this work. He has served on the Revision Committee of the United States Pharmacopoeia during two revisions and also on the committee on National Formulary. Among all his other duties, he has found time to write a text-book on Pharmacy, at present in its fifth edition and also to act as one of the editors of the National Standard Dispensatory.

Charles Caspari, Jr., married, in 1874, Miss Leslie V. Heinichen and this union

has been blessed with seven children, five daughters and two sons, all of whom are living, with the exception of one daughter who passed away in early childhood. Four of his children are married and he is the proud possessor of nine grandchildren.

Few men have worked harder during their lives than has Charles Caspari, Jr., nor more conscientiously and with less thought for personal gain. Work itself has been the motif of his life and in no sense has it been the material reward which work may bring. He has dignified work and, if genius consists in an infinite capacity for doing work, then he is a genius. He has always been a fiend for work and enforced idleness has always made him unhappy. He abhors all forms of chicanery and charlatanism and always hews close to the line regardless of where the chips may fall. He has always had an abiding faith in the progress of Pharmacy and his life work has been devoted to his chosen calling. He is extremely unassuming and modest and, probably on that account, has hosts of friends.

He is particularly impartial in the administration of his office as Food and Drug Commissioner of Maryland, and it is hoped that he may be spared for many years to continue his good work and to serve as an example to be emulated.

E. G. E.

PHARMACEUTICAL RESEARCH—WINTER MEETINGS.

President Frederick J. Wulling's address, which appeared in September number, pp. 778-791, was printed from a pre-convention copy from which the paragraphs following were omitted. He introduced these subjects of his address immediately preceding the discussion of Pharmacy in the Army and Navy, and they should be there included.

Research.—American pharmacy is not doing the creditable grade of research work that it is capable of doing. This is due, no doubt, to the fact that many of those pharmacists who are most capable of prosecuting original work are engrossed with other work. The comparatively few doing such work are doing so out of their own resources. Research work has, therefore, been a secondary consideration in a very large measure. This is lamentable, but under the circumstances quite natural. The remedy, as I see it, is to make provision for carrying on research work in a systematic way under such auspices and conditions as will afford the employment of the full time and energy of a number of men capable of doing this kind of responsible work. Research with such would not be secondary but primary. Since American pharmacists themselves do not, as a class, carry on research work and since such work is absolutely necessary for the advancement of the profession, they should be and no doubt are willing to pay specialists to do this very necessary thing for them. An endowment naturally suggests itself, and I strongly recommend that the Association create a pharmaceutical research endowment fund to which contributions should issue not only from Association members but from American pharmacy at large.

Winter Meetings.—The experience of many other associations has proven that meetings held during other than the summer months are more successful than those held during the hot season of the year. During the summer we all are more or less clothed with the holiday spirit and heavy responsible work is never done so well while one is on a quasi-holiday. Traveling and hotel accommodations are usually not as good in the summer time as at other times of the year. Formerly transportation was lower in summer. This is no longer the case. Summer meetings, if held at all, ought to be held away from large cities, because, naturally, the large cities are hot and uncomfortable in the summer time. The alternative is to hold the summer meetings at summer resorts. Rates usually are high there and accommodations relatively poor.

I recommend that the Association consider the advisability of holding meetings not necessarily in the mid-winter, but at some period other than during the summer.

EDITORIAL

E. G. EBERLE, Editor

253 Bourse Bldg., PHILADELPHIA

COMPULSORY HEALTH INSURANCE.

A HEARING on compulsory health insurance was recently held in Boston before a special commission provided for by the Massachusetts Legislature. The only organization that unqualifiedly approved the scheme was the American Association for Labor Legislation and this association is not identified with the prominent labor organizations.

A rather unexpected situation developed in that the project was favored by representatives of employers and opposed by those of employees. True, this was not a general representation of employers, but largely of the textile, hotel and restaurant interests, and one of the reasons for indorsement was stated to be that competitors were inaugurating private insurance companies and the representatives present preferred that if there was to be insurance of this kind, all should be under state control and thus all employers be on the same footing. The objections related not only to competition with insurance protection afforded by membership benefits in some organizations but also, that the physical examinations might be utilized in "black-listing" and as reasons for discharge of employees.

There are doubtless benefits to be derived from health insurance, but the decision as to how and what kind of protection is best, should be left to the individual. The proposed Compulsory Health Insurance bills, as they now stand, are dangerous in the extreme, and the drug business would suffer more than any other if such legislation is enacted. On several occasions we have made editorial comment on the subject: the article prepared by Mr. Harry B. Mason for the Section on Education and Legislation, and printed in this issue, should be carefully studied. It is hoped that the action taken after earnest deliberation by the American Pharmaceutical Association will prompt druggists to oppose such legislation by every available means. Instructions were given to print the forceful presentation on Compulsory Health Insurance in an early issue of the JOURNAL, and legislative committees of state associations may obtain reprints of the article by addressing the Journal office. This menace will require not only coöperative and individual opposition but a campaign of education among citizens and legislators.

E. G. E.

CAPITALIZE YOUR RESPONSIBILITY.

A PAPER under above caption was presented at the Indianapolis meeting of the American Pharmaceutical Association by Mr. J. C. Peacock and is printed in this number of the JOURNAL.

Responsibility draws the largest salary, no responsibility the lowest: it develops the biggest business, but it can be equally destructive—it is invariably worth a price. All business is based on responsibility: in some activities it is part of the assets; in the insurance business responsibility represents the greater part of the investment. But it is with the responsibility in the drug business, in the pharmacy, that the paper deals and a very timely subject it is. All pharmacists recognize their responsibility, to themselves, to the public; all states have enacted laws based on assumed or delegated responsibility by pharmacists. Notwithstanding this, few pharmacists seek to get returns for their investment in responsibility, for the complement delivered with every package or at least accompanies every product of their own manufacture or dispensing. This responsibility may develop a business or it may in a day destroy the efforts of a lifetime—every pharmacist should get a price for it, and as its worth can only be estimated, a certain fixed percentage or sum should be exacted from the patrons as integral of the total sale price of an article from the drug or prescription department. It must be regarded in the light of service or protection required in the transactions, not as part of the cost of the constituents nor time required in delivering the articles sold. Because of the unique relation responsibility has, the uncertainty of whether it will be creative or destructive, the price charged must be the subject of individual study. The plan proposed by the author places the whole assessment in the prescription department, though he, of course, realizes that in a degree it is a factor in every sale. Not only should responsibility be considered in the sale but the estimated incoming sum from this source should be actually used in providing protection: some may prefer to buy indemnity insurance while others will be inclined to invest or credit an estimated sum otherwise. The splendid thought is worthy of consideration and ought to be put into more general practice by all pharmacists.

E. G. E.

PROGRESS FOR RECOGNITION OF PHARMACISTS IN MILITARY SERVICE.

THROUGH the courtesy of the *Australasian Journal of Pharmacy* we have been informed that Major D. A. Cossar, the Staff Pharmaceutical Officer for Australasia, is either in the United States now, or will be, during a tour he is making, investigating the status of pharmacists and pharmaceutical service in the Allied armies.

Australasia has made some progress in giving recognition to pharmacists. In February of 1916 various pharmaceutical societies of Australasia were asked to nominate a Senior Pharmacist for the military district in which they were located. The Victorian Society nominated Major Cossar, the rank given him at that time being that of captain. Every military hospital in Australasia with over 220 beds has a Lieutenant Dispenser, who is a pharmaceutical chemist. All hospital ships are provided with a Lieutenant Dispenser and on all transports a registered chemist is in charge of the dispensary. No one is now employed by the military authorities in the dispensing of medicines unless he is a registered pharmacist.

When it was first suggested that pharmacists should be appointed to commissioned positions, more or less antagonism obtained, just as in the United States, but since the time of such appointments the value of their services has been recognized and there is inclination for still further recognition.

A letter has also come to the President of the American Pharmaceutical Association in which there is an account of a complimentary dinner given to Major D. A. Cossar, before leaving Melbourne for his tour, on which occasion the military was well represented by officers of the service to express their appreciation, particularly of the services of Major Cossar and pharmacy in general.

It is, of course, regretted that the visitor will not find a pharmaceutical corps in the United States Army, but it can be stated that progress in that direction is being made, if the increasing interest of the officials may be viewed in that light. We have been informed that a hearing will be held on the Edmonds Bill soon after the reconvening of Congress in December. At the Indianapolis meeting this measure was indorsed by the American Pharmaceutical Association, the American Conference of Pharmaceutical Faculties and National Association of Boards of Pharmacy. Further indorsement has also been given which indicates that the medical men are continuing their interest and unquestionably this will be helpful in the promotion.

Advice has also been received from Great Britain that registered pharmacists on active service in the Army abroad are to receive commissioned rank. And with the probability of the American Army in France being reorganized more or less in line with the French system, wherein pharmaceutical corps are provided, there is an increasing possibility for a like provision in the U. S. Army.

In Australasia it soon became very evident that with professional pharmacists things in relation to the supply of drugs and medicine improved. Pharmacists had a chance to show their work and physicians and pharmacists, more than ever, learned that there was a mutual dependence, which had an economic value to the government and insured better service for the enlisted men. The same will be true if we are successful in our efforts but we must persist in them.

All pharmacists should advise their congressmen and senators that they de-

sire the establishment of a pharmaceutical corps in the Army, as provided for in the Edmonds Bill and inform them of the arguments which have been presented and apply.

E. G. E.

MAYO BROTHERS' GREAT GIFT TO MINNESOTA—AN EXAMPLE FOR OTHERS.

ROCHESTER, MINN., is a center of surgical knowledge and practice for the whole world. Just how the Mayo Brothers have been able to accomplish so much is one of the wonders of the age. As a result of their labors, they have accumulated a large fortune, but the possession of it is not their object, for they have given all their savings, amounting to more than \$1,600,000, to the University of Minnesota, for the establishment of a hospital which they propose to maintain until the sum of two millions of endowment is reached. These men have given their lives to humanity and dedicated all their money to future generations for relief of the suffering and afflicted. They are not satisfied to selfishly enjoy the fruits of their financial success but are providing benefits for humanity while they are living. Both of the great surgeons are now also giving their invaluable time and experience to their country.

Such acts strongly emphasize the splendid service of medicine, and while pharmacy contributes to the possibilities of medicine, there are only a few, among many, engaged in pharmacy or contributory branches, who have exhibited a spirit of giving in a large way so that the opportunities of pharmacy might become achievements and lead on to greater accomplishments. The recommendation made by President Wulling in his annual address presents such opportunity, and all of the pharmacy schools of the country need the altruistic spirit of the alumni and of those who directly or indirectly profit.

E. G. E.

MINUTES OF THE SECOND GENERAL SESSION, AMERICAN PHARMACEUTICAL ASSOCIATION.

As it was necessary to submit printed proof of the proceedings of the second general session of the American Pharmaceutical Association to the officers in charge, these may not be included in this issue but will be printed in November number of the JOURNAL. Should they arrive in time for inclusion these minutes will be found preceding Council Business.—THE EDITOR.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

MINUTES OF THE SESSIONS.*

FIRST SESSION.

The first session of the Scientific Section was called to order in the Claypool Hotel, Wednesday, August 29, 1917, at 9.30 A.M., by Chairman J. L. Turner, who announced that pressure of work had prevented him from preparing the customary address. The first order of business was the report of the Committee on Research. After discussion, the report was adopted and ordered referred to the Council.

The following were then appointed as Committee on Nominations: W. L. Scoville, F. R. Eldred, Charles E. Caspari.

The following papers were then presented and referred for publication: Biological Products from the Pharmacy Point of View, L. E. Sayre; Magnesium Sulphate—Its Pharmacological and Therapeutic Action, Jacob Diner; Rabies, E. G. Stewart; Vaccine Therapy in the Light of Facts, A. H. Rovin; Biologic Assay Methods of the U. S. P., Paul S. Pittenger; An Improved Apparatus for Testing the Activity of Drugs on the Isolated Uterus, Paul S. Pittenger; The Deterioration of "U. S. P." and "Fat-Free" Tinctures of Digitalis, Paul S. Pittenger and H. K. Mulford, Jr.; Solubility of Phosphatic Kidney Stones, J. F. Geisinger, W. F. Rudd and E. V. Greever; The Significance of Creatinin and Its Colorimetric Determination in Urine, W. F. Gidley; A Separatory Funnel for Ether Extraction, G. D. Beal; The Chemistry of the Heptane Solution, Edward Kremers; Standard Cannabis, W. A. Pearson.

A resolution by Dr. A. B. Lyon urging the revision of the Pharmacopoeial requirements for Cannabis was on motion referred to the Committee on Resolutions.

The Committee on Nominations reported nominees for the Section as follows: For Chairman, W. W. Stockberger, L. E. Warren; for First Vice-Chairman, E. V. Howell, G. D. Beal; for Second Vice-Chairman, J. Diner, W. F. Gidley; for Secretary, H. C. Fuller, H. C. Hamilton.

The session then adjourned at 1.00 P.M.

SECOND SESSION.

The second session of the Scientific Section was called to order by Chairman Turner at 9.30 A.M. on Thursday, August 30, 1917.

The following papers were presented: A New Method of Extracting Drugs for Alkaloidal Assaying, W. M. Maske, Jr.; An Improved Method of Assaying Opium, W. M. Maske, Jr.; General Remarks on Solvents in Pharmacy, John Uri Lloyd; Soy Bean Oil, E. V. Howell; Scientific Drug Farming (illustrated with motion pictures), H. C. Fuller; Drug Cultivation (illustrated with lantern slides)

* Papers and discussions thereon are printed apart from the report of the sessions of the Section.

F. A. Miller; Breeding of Medicinal Plants, F. A. Miller; The Cultivation of Henbane, N. R. Mueller; The Estimation of Alcohol, O. C. Haarer.

The next subject was a Symposium on Drug Plant Growing. The discussion was opened by W. W. Stockberger and continued by Edward Kremers, F. A. Miller, H. C. Fuller, R. A. Lyman, J. U. Lloyd, L. E. Sayre and Henry Kraemer.

The meeting then adjourned at 12.30 P.M.

THIRD SESSION.

The third session of the Scientific Section was called to order by Chairman Turner at 9.45 A.M., Friday, August 31, 1917. The Committee on Ebert Prize reported as follows:

To the Scientific Section, A. Ph. A.:

The Committee on Ebert Prize has made a very careful study of the papers presented at the last meeting of the Association and concludes that although quite a number of most excellent and valuable papers were read, none of these seem in the opinion of the Committee, to meet entirely the purposes for which the Ebert Prize Fund was created; namely, an original investigation of a medicinal substance, determining new properties, or for improved methods of determining merit, for the preparation of chemical or pharmacal products. For this reason it is the judgment of the Committee that no award should be made.

The Committee would also call the attention of the Section to the fact that the By-Laws provide that the Ebert prize should be awarded within 6 months after the annual meeting at which the essays are presented. In order that this may be done, it seems to be desirable that the Committee on Ebert Prize should be appointed during the meeting each year rather than later.

Respectfully submitted,

(Signed) { J. A. KOCH, *Chairman*,
H. ENGELHARDT.

On motion, duly seconded, the report was adopted.

The Report of the Committee on Botanical Nomenclature was then presented by O. A. Farwell. On motion it was ordered that this report be received and referred to the Council.

Moved by H. C. Fuller that a Committee of the Scientific Section be appointed by the Chairman to promote coöperation in matters relative to the cultivation of drugs and to encourage the dissemination of uniform information concerning this subject. Motion adopted. W. W. Stockberger was appointed chairman of this committee, the other members to be named later.

The following papers were then read and referred for publication: Sulphur—Its Production and Use, M. A. Mansbach; Tolu and Sugar Coating in the Disguising of Medicines, Bernard Fantus; Borax and Boric Acid, H. L. Harris; The Analysis of Borax Soaps for the Borax Content, K. F. Ehlmann and Joseph Harrison; Tincture of Cantharides (Fourth Paper), W. L. Scoville; The Constituents of Senna Beans, W. L. Scoville; The Microanalysis of Malted Milks, C. W. Ballard; The Relations of the U. S. P. and N. F. to Food Standards, C. W. Ballard; On the Deterioration of Crude Indian Cannabis, C. R. Eckler and F. A. Miller; Apparent Deterioration of Donovan's Solution, Joseph Rosin; Emetidine (Kryptonine) A Study of Its Pharmacology, Howard S. Browne; Permanence of Pepsin Solutions, C. F. Ramsay; The Inversion of Sugar in U. S. P. Syrup, C. W. Lloyd

Plette; Standardization of Digitalis, H. C. Colson, Jr.; Some Color Changes in Solutions Containing Citro-chloride of Iron, W. R. White; The Microchemistry of the Alkaloids of *Datura stramonium*, Chas. O. Lee.

Officers of the Section for the ensuing year were then elected as follows: *Chairman*, W. W. Stockberger; *First Vice-Chairman*, E. V. Howell; *Second Vice-Chairman*, W. F. Gidley; *Secretary*, H. C. Fuller.

A vote of thanks was given the retiring officers of the Section for their work during the year, after which the Section adjourned.

W. W. STOCKBERGER,
Secretary.

BIOLOGICAL PRODUCTS FROM THE POINT OF VIEW OF THE PHARMACIST.*

BY L. E. SAYRE.

Pharmacy, like medicine, is extending its boundaries. In the period of a few generations it has passed from the crude drug, through elegant pharmacy—the “Elixir Period”—through the organic-synthetic period, and now has fully entered the biologic period. I shall take the liberty of using the term “biological” in its broadest sense.

It is needless to say, perhaps, that the medical profession regards biological products as constituting one of the most important groups of drugs with which the physician has to deal; this is the language of the volume, endorsed by the American Medical Association, entitled *Useful Drugs*.

The literature relating to this class of agents is extensive and of such a character as to invite the attention of the pharmacist, yet there is a lamentable ignorance of their production, application and of the valuable findings in this field of research. Taking the pharmacist as a class, they are satisfied to know how to cater to the business created by the physician and the manufacturer—to know how to “stock up” in a fair assortment, how to preserve and how to sell them. Since the varieties have become so numerous, this stocking up requires knowledge and judgment, it is true, because there is more or less of an individuality in products. Yet the criticism still remains. We know less than we should, and if we would keep abreast, as pharmacists, with the development of medical practice, it is incumbent that we should be as familiar with this part of our *materia medica* as with other portions. The physiological action of these agents should be known, and, with the relation that some of them have to specific infectious diseases, we should be acquainted. The potency and safety tests employed in their standardization are likewise important. We should at least be as familiar as the detail man who periodically visits the physician. Above all, we should know enough to have confidence in what we dispense as public servants.

This criticism is not made in the spirit of faultfinding; the writer can be censured as well—he, too, has not taken full advantage of the opportunities so available to meet the responsibility. It would be unfair to assume that many druggists would not make the same confession.

* Read before Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

About 16 years ago (1901) the writer, as chairman of a special committee of this Association, reported on the advisability of admitting diphtheria antitoxin into the Pharmacopoeia. This report will be found in the published proceedings of that year. The decennial convention, which had met at Washington the year previous, had, by a ruling, practically prohibited the introduction of any remedial agent into that national standard that could not be standardized by any other than biological methods; now, in addition to recognizing several of the products, the Pharmacopoeia has introduced many valuable biological and clinical tests and reagents; this fact is incidentally mentioned to mark the development along the lines of medical practice. Our colleges, with much difficulty, are trying to meet the obligation this development demands. A few of our colleges have optional courses in bacteriology, but very few indeed lead to the study of these microscopical flora with a view to bringing about an appreciation of their functional processes and their application in different departments of science, departments closely connected with pharmacy. Sanitary science should engage the attention of the pharmacist. In sanitary water analysis there is employed the gas-forming bacteria. Many other of their physiological activities, such as pigment formation, toxin and ptomaine elaboration, are indirectly, at least, applicable to pharmacy. However much he may disclaim an interest, the pharmacist's point of view should be tinged with some concern for those who are in training to meet future demands of our vocation. Pharmacists should urge that more optional courses in this subject be introduced along the line indicated, and as soon as possible have these courses changed from optional to required. Our representative educators should urge that our reorganized standard curriculum as published in the *Pharmaceutical Syllabus*, should at least acknowledge the value of this subject, if they would give our young pharmacists a chance for education in order to meet the demand of the times. The *Syllabus*, 2nd edition, makes no mention whatever of an outline for biological study, or a study of biological products. In connection with materia medica, occurs the paragraph: "Animal Drugs," in which are mentioned antitoxin and vaccines; no other reference than this to biological products or the study of biology, or bacteriology, is made. We have had presented at previous meetings of this Association brief outlines of biological study which might well form a basis of an outline to be adopted by the Syllabus Committee.

Our pharmaceutical literature, it is true, in periodicals and volumes, has contributed much information, the manufacturing houses have been exceedingly profuse in publications of valuable data, but these do not supply a systematic course which the writer feels should be prescribed for the pharmacy student of today.

These articles too often take for granted more knowledge than the reader possesses, they try to be elementary, but they often puzzle and bewilder the reader by slipping in words, undefined, that appear meaningless. It should be said, however, to their credit, that some of the manufacturing houses have issued primer-like compends, which, as far as they go, are quite satisfactory. It might be well to have some of these reprinted in our JOURNAL.

It must be admitted, of course, that the principal concern of the pharmacist is in the distribution or dispensing of these products. In so doing he regards storage, selection of stock and familiarity with certain talking points as important.

This service of dispensing, one of our largest manufacturers tells me, is now given by the majority (or the "cream") of the drug trade. Several contributions have been made, by pharmacists of experience, on the handling of biological products; one of these, worthy of mention, was presented by H. H. Whyte.¹ In his allusion to the cold storage of them, he refers to the advantage of the special refrigerator, which is furnished in different sizes, now coming into common use. He also refers to the rapid deterioration of the specially susceptible vaccine virus, quoting Dr. Elgin's tabulation, which, in substance is as follows:

If kept at the following temperatures it becomes inert: 140° F. in 5 minutes; at 98° F. (body temperature), in 3 or 4 days; at 70° F. is weakened in three weeks.

It remains active: At 50° F. from 3 to 6 months; at 10° F. for 4 years.

Another significant paragraph from this paper I am persuaded to quote:

"Without doubt a well-organized biological department is about the most desirable attribute of a well organized pharmacy. The work in itself is interesting—if properly conducted it is profitable and adds prestige to any store, and, above all, there is a satisfaction and gratification in knowing that you are aiding in saving life. The service which you render can put you in closer touch with the physicians and customers more than anything else that you can do and justifies your standing as a professional man in your community."

The A. M. A. list of approved *Useful Drugs* (including practically the same number as the U. S. P.) introduces the same by the following statement:

"There being no established standard for the various other products, they are not examined for their therapeutical value in the laboratory, but are tested for the amount of preservative and freedom from bacterial antitoxin contaminations."

As there is no recognized standard for, nor official recognition of, the various other products, a letter was addressed to a few of the manufacturing houses, asking the question which of the products, in their opinion, should be standardized, and officially recognized in the next revision of the U. S. Pharmacopoeia. As a result a flood of good literature was sent the writer, accompanied with the following suggestions:

From Dr. F. E. Stewart, who has contributed many papers to this Association upon biological products, comes the suggestion:

The Typho-bacterin is just as important an immunizing agent as diphtheria antitoxin, or small pox vaccine, and should be incorporated in the next revision of the Pharmacopoeia.

From A. W. Lescohier, the value of whose suggestions every one would appreciate, I am sure, is the following:

The products which occur to me as being worthy of inclusion in the next U. S. P. and which are not mentioned, are: Antirabic Vaccine, Luetin, Toxin Antitoxin Mixtures (overneutralized), Diphtheria Toxin, for Shick Test,² Pollen Extracts.

As far as antirabic vaccine is concerned, it is practically impossible to establish a definite standard because of lack of uniformity in the manufacturing methods used by different laboratories.

For instance, one way of its preparation is by the Cumming method, used in the Pasteur Department of the University of Michigan. We are confident that it surpasses in efficiency and

¹ *Bull. Phila. Coll. of Pharm.*, Dec. 16, 1916.

² Schick Test.—The soluble toxic substance obtained by growing pure cultures of the *Bact. diphtheriae* in beef bouillon is used by intradermal injections to determine susceptibility to diphtheria; a positive reaction in persons exposed to infection indicates that a prophylactic injection of antidiphtheric serum should be given.

safety other methods of antirabic vaccination. However, most laboratories still make this vaccine from attenuated cord, and the methods employed in the different places is subject to considerable variation. This being the case, it is obvious that it would hardly be practical at the present time, to outline any standard method for preparing the vaccine.

Luetin is another product which cannot be standardized in the ordinary sense of the term. The control of the activity of this product must depend upon the use of good cultures, and rigid adherence to manufacturing formula.

The other products mentioned are of more definite character.

The toxin antitoxin mixture could be prepared on a definite basis. For instance, an amount of toxin comparable to 7 minimum lethal doses for a 250 Gm. guinea pig, overneutralized by the addition of 10 units of antitoxin.

Diphtheria toxin for the Schick test, supplied by various laboratories is presumably of uniform activity, $\frac{1}{50}$ of a minimum lethal dose of toxin contained in 0.2 Cc.

Pollen extracts can also be standardized on the weight of pollen which they represent. In fact, most laboratories have adopted this method of standardization, first suggested by Noon. The strength of the products is expressed in units, a unit representing one millionth of the extract of one gramme of the pollen.

Summarizing what has been said or intimated in this paper, the pharmacist—especially the pharmacist of the future—if he is to be abreast of the demands of his vocation—of necessity will be familiar with this developing part of materia medica.

The point of view now taken by our representative pharmacists and of the revisers of our Pharmacopoeia, to say nothing of the medical practitioner, is forcing the acceptance of this view upon the members of the profession as a whole. Quite a number of the agents of this group are classified as belonging to preventive medicine and most of them may be classified as Defensive Medicines.

Quoting Dr. George Crile:

The injection of live or dead bacteria or of foreign protein substance into the blood stream of the body supplies the exciting factor which calls out the activity of chemical defenses through the excitation of chemical ceptors. On this important fact is based the practice of serum therapy and of vaccination, by which diphtheria, typhoid, smallpox, tetanus and other like diseases are conquered.

The point of view of the pharmacist, as well as the physician, must differ in this defensive therapy, from that which has characterized the other portions of our materia medica. This new point of view cannot be acquired, nor its demands met by the pharmacist, simply by catering to the demands of the trade. To meet the responsibilities of the pharmacist, there is much more required than that which obtains from merely stocking up and selling the products.

ABSTRACT OF DISCUSSION.

F. E. STEWART: I want to say something this morning on the subject of so-called Bacteriological Infection, but it is impossible to talk intelligently or for very much edification of the audience on such a very broad subject as this in a short time. The subject of bacteriological products includes a very wide field. It might be taken up from very many points of view—many practical points of view—in fact. One point of view, as an example is that of the storing of biologicals. Sometime ago I read a paper before the Seaboard Medical Association at Norfolk, and the President of the Virginia Board of Health said, "I wish you would bear this message to the pharmacists of this country; if they don't take more care in the preservation of biological products, we, as members of the boards of health, will establish facilities for that purpose, and take the business away from them."

Then again we might discuss the thing from the point of view of the knowledge that the pharmacist should have in regard to biological products from other points of view. For instance, the question of post action of tetanus is one that is constantly coming up. It was only about

a year ago I think that there were three cases of post action of tetanus in New Jersey which I had occasion to investigate. I found that the pharmacist and physician both knew very little on the subject. They read from the text books published long ago information that no longer is considered reliable, and based their arguments on those points that they found in the text books; but if they had known that the Bureau of Hygiene at Washington has investigated the subject and found that they cannot infect a person—that is they cannot infect healthy tissues—by mixing tetanus germs with vaccine and injecting it into the healthy tissue, unless there is also pus infection, they would have had a very different view of the entire subject and been saved a great deal of trouble. As I said before, there are so many points from which this subject can be discussed that we might talk a long time and still be taking up points of exceeding value and interest to the Association.

JACOB DINER: More than five or six years ago, I presented a paper on vaccine before this section, wherein I endeavored to point out to the pharmacist that he must interest himself in the newer methods of treating disease. It is the pharmacist's duty to be conversant with the remedial agents, their origin, composition, and mode of acquisition. While he, in a manner, does familiarize himself with the chemical and medical drugs which he handles, there has been a woeful lack of interest in the matter of allied remedial agents, particularly vaccines, and antitoxins. There are many pharmacists who do not know the difference between vaccine and antitoxin; and I might say in all fairness that there are a number of physicians who do not know the difference. Pharmacists should have more knowledge relative to biological products, not only that they may intelligently handle them but to discuss the subject with physicians. There is no excuse for the prevailing lack of information, as the opportunities for acquiring it is not only afforded by text-books but also through related articles in the journals.

W. M. BOWMAN: I want to call attention to one thing in biologicals. That is the point of scientific honesty. I think that when it comes to the handling of biologicals—the sale of biologicals to physicians—you will find that point something which can very well be borne in mind. In the sale of biologicals to physicians you are coming in contact, seventy-five percent of the time, not with the ultra scientific man, but with the man who doesn't know very much about biological products. The main thing in handling biologicals from the pharmacist's point of view is to thoroughly know the products; and one cannot know these only through a thorough study of the whole subject. And above all, whatever information is supplied should be backed by a knowledge of facts; when these are communicated it may occasionally result in loss of business, if the product is not adapted for the intended or contemplated use, but this is the correct proceeding, that is what I call scientific honesty.

BIOLOGICAL ASSAY METHOD OF THE U. S. P. IX.*

BY PAUL S. PITTENGER.

The history of standardization may well be divided into five important steps.

The *first step* was made by Dr. Lyman Spalding, who, in 1817, submitted to the Medical Society of the County of New York City the project for the formation of a National Pharmacopoeia, the adoption of which resulted in the publication of the first National Pharmacopoeia in 1820.

The *second important step* was the organization of the American Pharmaceutical Association in 1852 to improve and regulate the drug market.

The *third important step* consisted in the adoption of the Purity Rubric and of assay processes for galenical preparations by the Pharmacopoeial Convention of 1890.

The *fourth important step* consisted in the securing of legislation known as the

* Read before Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

Pure Food and Drugs Act of June 30, 1906, by which the standards of the Pharmacopoeia were made law for Interstate Commerce in drugs and medicines.

The *fifth important step* is the inclusion of a Chapter on "Biologic Assays" in the U. S. P. IX. for certain drugs and their preparations which are not amenable to chemical standardization.

The incorporation of this chapter on "Biologic Assays" is an epoch in the history of standardization and, as stated in my former paper,¹ it is to be hoped that with this start a much wider publicity and experience will be gained so that the next Committee of Revision will readily be able to select from the proposed method and make official the methods which prove to be the most satisfactory and convenient for each drug.

In the second paragraph of the chapter on "Biological Assays" in the U. S. Pharmacopoeia, the following statement appears:

"Brief descriptions of the more commonly accepted methods are given here in order, first, to direct attention of manufacturers to them; second, to ascertain the points of weakness which may exist in them; and finally, to outline methods and establish standards which those interested may adopt, should they desire to assay their products and have them conform to the standards proposed."

In regard to the first intention of the Committee, I would only draw attention to the fact that the larger pharmaceutical manufacturers have biologically standardized their preparations for the past eight to ten years and were in many cases the *originators* of the tests in use at the present time. These tests were improved and developed by them to a practical working basis.

Due to the fact that the methods of the Pharmacopoeia in many cases *lack the details* which workers in the practical laboratory have found essential in order to obtain accurate results, I feel that the U. S. P. methods are in many instances *not as accurate and up-to-date* as the methods in common use at the present time in the commercial laboratories. In other words, the methods do not, according to my mind, show as well as they might the degree of efficiency to which biologic assays have been developed.

Most of my remarks will therefore, be limited to what I consider "points of weakness" which exist in the present U. S. P. methods.

CANNABIS.

Page 605. "*Before administration the animal should not be fed for twenty-four hours in order to hasten absorption.*"

It is not necessary to withhold food for more than ten to twelve hours before making a test as the stomach will be completely emptied in this time and it will not be so hard on the animal.

"*The head of the animal being held, its mouth is opened and the capsule or pill is placed upon the back of the tongue. Usually the drug is easily swallowed when given in this way, but this may be facilitated by giving the animal a small amount of water to drink.*"

This method works sometimes, but as a general rule the dog does not feel inclined to take capsules so easily. In practical work it will be found that it is almost impossible to make a dog swallow a capsule by the above method. Pulling the

¹ "An Improved Apparatus for Testing the Activity of Drugs on the Isolated Uterus."

tongue well forward, placing the capsule far on the back of it and then releasing the tongue, is an improvement, but the best method is the following:

"Open the animal's mouth by forcing the thumb and index finger of the left hand between the jaws, back of the teeth. The capsule is then placed on the back of the tongue with the right hand and the mouth quickly closed; while still holding the mouth shut, the animal can be made to swallow the capsule immediately by slapping it on the throat."²

By this method the most obstinate dog can be made to swallow the capsule on *first* attempt.

In lieu of a standard extract furnished by some central authority such as the U. S. Hygienic Laboratory, what is the use of running an assay each time on a standard preparation when the strength of the standard is obtained by adjusting a preparation until it is of such strength that 0.03 Cc. per kilo of the fluid extract will produce incoördination? Why not adopt 0.03 Cc. per kilo as a standard and calculate the strength of the unknown by comparing the dose of it necessary to produce incoördination with the above 0.03 Cc. per kilo instead of the amount of the standard necessary to produce the same effects? If the standard is of proper strength will it not require exactly 0.03 Cc. per kilo? The only object so far as I can see for assaying the standard preparation each time would be to avoid errors due to the variation in the susceptibility of dogs. The use of a standard preparation, unless supplied by some central authority, will not avoid this error because the standard preparation is adjusted to the above *standard dose* and not to *standard dogs*. Are you not just as liable to have dogs which are over or under normal susceptibility when you adjust the standard as when assaying an unknown, thus making the standard slightly over or under strength? If so, by adopting the longer process of assaying both standard and unknown each time, the error due to variation in susceptibility is only increased because you adopt as a standard preparation one which may be slightly over or under strength and then adjust all subsequent preparations to this, thus making the same error in all, whereas by the shorter method of adopting a definite dose as standard we only have an occasional preparation a little off strength, due to an over or under susceptibility of the dogs used on that particular assay.

Due to the variation in susceptibility of different dogs, the method must essentially be comparative and not absolute. This necessitates the adoption of an arbitrary standard with which the activity of the unknown can be compared. The U. S. P. method would, therefore, be very satisfactory had the committee only gone a step farther and, as suggested by Pearson,³ made arrangements for supplying manufacturers with a suitable standard with which to compare the activity of their preparations. Until such a standard is supplied, however, it is only a waste of time to run an assay on a standard preparation, *which the manufacturer has prepared himself*; each time an unknown sample is tested.

Some workers have objected to the standards adopted by the Pharmacopoeia for Cannabis, claiming that they are too high. Personally I have found no difficulty in meeting the U. S. P. requirements for preparations of Cannabis. In going over the physiologic reports on fluid extracts of Cannabis I find only four or

² Pittenger, "Biochemic Drug Assay Methods," page 101.

³ Pearson, Jour. A. PH. A., Nov. 1916.

five samples out of the last thirty submitted to the laboratory which have failed to come up to the U. S. P. standard. There have also been very few samples of Cannabis drug submitted to the laboratory which have not produced marked incoördination in the standard U. S. P. doses.

In order to observe marked incoördination in the animals with the U. S. P. dose, it is, however, necessary to take all the precautions mentioned in the text, such as keeping the animals in a perfectly quiet room free from disturbance and separated so they cannot see each other.

I find that I obtain much more accurate results by using as an end-point a reaction which can just be distinguished when all of the above precautions are taken as by this method a sharp line can be drawn between the dose which just produces incoördination under the above conditions and the next smaller dose with which it is impossible to detect any symptoms of incoördination. If a very marked effect is used as an end-point for instance, an effect sufficiently marked that the animal will show incoördination even when its attention is attracted by movements of the operator, other dogs, etc., I find that not nearly as accurate results can be obtained because very little difference in the degree of incoördination can be noted between dogs receiving doses sufficiently large to produce marked incoördination under these conditions and those which have received 20 or 40 percent larger doses.

I have found, therefore, that by adhering strictly to the U. S. P. method, no difficulty in noting marked incoördination in animals receiving the U. S. P. standard dose of Cannabis.

The method of stating the standard, however, is open to criticism. The U. S. P. states:

"When assayed biologically Fluidextract of Cannabis produces incoördination when administered to dogs in a dose of not more than 0.03 mil per kilogramme of body weight."

According to the above statement a dose larger than 0.03 mil per kilo would not produce incoördination. The words "not more than" should either be omitted or changed to "in a minimum dose of 0.03 mil per kilo."

Some workers have objected to the action of the Committee in making the test for Cannabis compulsory because it is one of the least satisfactory tests we have, and would, therefore, be a hardship on the retail druggist in that he would be held accountable for the activity of his Cannabis preparations when only an expert could satisfactorily carry out the test.

This criticism would be justified had the Committee adopted a standard reading "the minimum dose of fluid extract of Cannabis necessary to produce incoördination should be *not less than* (—) mils per kilo, *nor more than* (—) mils per kilo."

The standard adopted, however, only specifies a *minimum* activity in order to guard against fraudulent, inert or badly deteriorated drugs and does not specify "limits" as in the chemical assays for alkaloidal drugs.

No hardships are imposed upon the inexperienced operator, therefore, because it is only necessary that Cannabis preparations possess a certain minimum activity and it is not compulsory that they actually be standardized.

Unlike most chemical assays the assay for Cannabis is such that a preparation which passes the inspection of an inexperienced operator is more active than

one passed by the expert because the expert can notice marked signs of incoördination in dogs before the first signs are appreciable to the inexperienced.

Of course, *the expert is better qualified to actually standardize these preparations*, but, as before stated, a person need not be an expert in order to determine whether or not a particular preparation of Cannabis conforms to the requirements of the U. S. Pharmacopoeia.

ACONITE.

The proposed "time limit" of 12 hours is very objectionable as this means 12 hours after the pigs are injected. When you add to this the time of weighing animals, preparing solutions for injections, making injections, etc., the test consumes 13 hours, which cannot be included in the ordinary working day and makes a rather long week for men employed in laboratories which run these assays almost daily. I would suggest a 24-hour "time limit." Three years ago we made a record of the results obtained on several thousand pigs at the end of 2, 3 and 24 hours and found that we obtained the most concordant results by using 24 hours as the "time limit." We immediately changed from the old 2-hour to a 24-hour "time limit" and have employed this "time limit" ever since with very satisfactory results.

I do not doubt but that a 12-hour method would be just as accurate as the 24-hour method but according to my mind it would be very objectionable for the reason stated.

DIGITALIS—STROPHANTHUS—SQUILL.

The method recommended for the above drugs is the so-called "one-hour frog" method. Personally I prefer the guinea-pig method to the frog method. My principal criticism of the method given in the Pharmacopoeia, however, is in regard to the technique recommended for injecting the doses into the frogs. The U. S. P. states:

"After the frogs have been weighed as described, the doses to be given are calculated according to their weights and are *measured into small conical glasses by means of a finely graduated pipette*. The doses of the preparation which are to be injected should be as uniform in quality as possible and *should not exceed 0.015 mil for each gramme of body weight of frog*." * * * * * "When the doses are ready, they may be injected into the anterior lymph sac of the animal. This is done by means of a *glass pipette* which is drawn out to a fine point. The frog is held on its back in one hand and the pipette with the contained drug in the other, the mouth of the frog is opened with the point of the pipette and, carefully avoiding the tongue, the floor of the month is punctured and the point of the pipette is then seen to enter the anterior lymph sac of the frog. The contents of the pipette are now forced into the sac, either by gravity or by gently blowing, if necessary. In the latter case, care should be taken not to introduce air into the sac."

It is *absolutely impossible* to obtain accurate results if this technique is followed. It will be noted that the average frog should weigh 20 Gm. and that the dose injected should not exceed 0.015 mil for each gramme or 0.3 mil for a 20 Gm. frog. You are directed to measure this 0.3 mil by means of a *finely graduated pipette* into a conical glass. This *very small dose* (0.3 mil) is then sucked up into another *sharp-pointed pipette* and forced into the lymph sac by blowing.

The error due to the amount of solution left in the conical vessel and the second pipette is indeed great when compared with the very small dose given.

The use of the second pipette and the conical glass vessel is no doubt recommended because it is impossible to force the preparation into the lymph sac by blowing and at the same time accurately measure the dose to the hundredth of a mil.

The two pipettes and the conical glass vessels should be replaced by an all-glass or "Record Tuberculin Syringe," which is graduated in hundredth of a mil. By the use of one of these syringes the *actual amount of the preparation injected* can be measured to the hundredth of a mil, whereas by the U. S. P. method we only know the amount of solution placed in the conical vessel and not the amount actually injected.

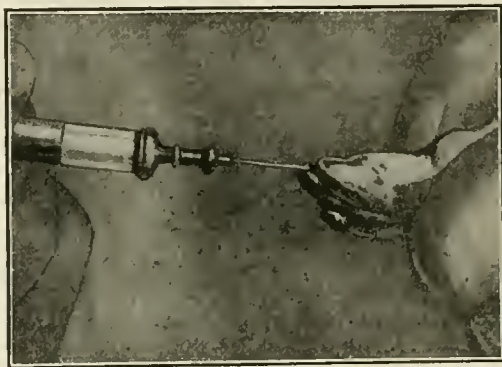


FIGURE 1.—METHOD OF INJECTING FROGS.

From Pittenger's "Biochemic Drug Assay Methods."

On page 608, first line, the directions state:

"The dose thus found is then compared, etc."

The text fails to state which dose is *the dose* to be compared. It is not stated anywhere that the *smallest or minimum* dose necessary to bring about the end reaction is the one to be used in computing the strength of the preparation. In other words, the directions give no definite outline for carrying out the tests, but take it for granted that the operator understands the technic of giving the doses in series, progressively increasing or decreasing until the M. L. D. or M. S. D. is found, etc.

SUPRARENAL GLAND.

As stated by Hamilton,⁴ "the biologic assay of products of the suprarenal gland is open to criticism in only two particulars, *i. e.*, in the method of measuring and administering the doses and in attempting to check the results as described."

"Using both femoral veins for injecting sample and standard is to obviate the possible mixing of the two solutions if both are injected into the same vein. But it introduces a very much greater source of error. The amount injected can much more easily be measured by use of a pipette than in a syringe, and the dose after being injected can be easily and completely washed into the blood stream by a follow-up injection of 2 mls physiologic salt solution. When this procedure is followed, no mixing of two injections is possible."

⁴ Hamilton, "Biological Standardization," Amer. Jour. Pharm., Feb. 1917.

Another very good method is to *expose the saphenous vein at its junction with the femoral*. When giving injections the needle of an all-glass syringe is inserted far enough through the saphenous vein to allow the point to project directly into the blood stream in the femoral vein. After injecting the preparation, the needle can be withdrawn and the saphenous vein clamped with a bulldog clamp. The preparation thus injected is entirely carried into the circulation by means of the main current of blood in the femoral vein.

My views also coincide with Hamilton's in that the "checking of an assay by making injections of sample and of standard into opposite sides from the first used is no check except in so far as it checks conditions on the two sides of the dog. This feature can better be eliminated by using only one side. Further, by the official method, if it is impossible to complete the test and the check on a dog, no option is left, but to repeat both test and check on another dog. It is occasionally necessary to check an assay on a second dog when conditions during the first test were unfavorable for accuracy but no advantage results from a retest on the same dog."

PITUITARY EXTRACTS.

It is gratifying to note that the Committee has adopted the isolated uterus method for Testing Liquor Hypophysis, for, as stated in another paper contributed to this Section,⁵ "This method is the best so far proposed, as differences of activity which are only just appreciable by the blood-pressure method, under the best conditions, are at once obvious in the test on the uterus without any special care in controlling the regularity of the response."

I am of the opinion, however, as stated in the paper mentioned above, that more concordant results can be obtained by employing the *whole* one horn of the uterus of a 350 to 425 Gm. pig instead of only a *segment* of the one horn of the uterus of a 250 Gm. guinea pig; also by controlling the contractions of the uterus by means of an escapement wheel and bucket for holding shot instead of the small heart lever recommended. When the whole horn is used the heart lever is not heavy enough to allow sufficient weight to be added to control the contractions of the muscle.

The assay for Liquor Hypophysis requires more experience on the part of the operator than any other biologic test in the Pharmacopoeia, and, although compulsory for a U. S. P. product, it is not included in the chapter on Biologic Assays.

The principal criticism of the U. S. P. method for testing Liquor Hypophysis, however, is not with the method itself but with the standard adopted. The author's views upon this subject were set forth in a paper read before this Section last summer⁶ in which the following statements were made:

"Before adopting a complex substance like the above (beta-iminazolyethylamine hydrochloride) as a standard for adjusting the strengths of commercial preparations it would have been better, perhaps, to make a thorough study of a number of problems such as the following:

⁵ Pittenger, "An Improved Apparatus for Testing Drugs upon the Isolated Uterus."

⁶ Pittenger and Vanderkleed, "Preliminary Note on the Value of Beta-Iminazolyethylamine Hydrochloride as a Standard for Testing Pituitary Extracts," JOUR. A. PH. A., Feb. 1917.

1. Degree of uniformity in the physiologic action of different available samples of the proposed standard substance.
2. Rate of deterioration of solutions of this substance.
3. Effect of sterilization on solutions of this substance.
4. Rate of deterioration of the substance itself.
5. Effect of repeated doses on uterus.
6. The toxicity of the substance as compared with Pituitary Extract.
7. The relative toxicity of a Pituitary Extract of the strength proposed by the U. S. P. IX and that of the commercial extracts as supplied by the leading Pharmaceutical Manufacturing Houses.

The results of experiments are then given which tend to prove that the standard substance deteriorates quite rapidly and that "the standard adopted by the U. S. P. IX is very low because by comparison we find that the commercial extracts prepared by the leading pharmaceutical houses, which have been on the market for several years and to which the physicians have become accustomed as to dosage, etc., are from three to five times as active as an extract of the new U. S. Pharmacopoeia standard strength. This is unfortunate, as there is no reason why a weaker preparation than the one to which physicians have become accustomed should be placed on the market." The findings of the author as reported in the above paper have since been corroborated by Eckler⁷ and Hamilton.⁸

It is to be hoped, therefore, that before it becomes necessary to revise the Pharmacopoeia again definite requirements can be drawn up for the test substance itself and that an accurate coördination of the required U. S. P. strength and of the common pharmaceutical practice may be secured.

PHARMACODYNAMIC LABORATORY,
H. K. MULFORD COMPANY,
August 15, 1917.

ON THE DETERIORATION OF CRUDE INDIAN CANNABIS.*

BY C. R. ECKLER AND F. A. MILLER.

It has long been known that crude Indian Cannabis loses its activity quite rapidly, and Marshall¹ and others have shown that the deterioration is due to oxidation of the active principles, but the rate of deterioration during commercial storage has not been determined, and this was of particular interest to us. For the purpose of learning something on this point, two sets of experiments were carried out, our intention being to imitate the different conditions under which the crude drug might be kept.

One lot of drug was stored in a cool basement in three portions, one portion sealed in alcohol, one portion sealed dry, and one portion unsealed dry. Another lot was stored in a warm attic in four portions, one portion, granulated, sealed;

⁷ Eckler, *Amer. Journ. of Pharmacy*, May 1917, p. 195.

⁸ Hamilton, *Amer. Journ. of Pharmacy*, Feb. 1917.

* Read before Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

¹ Marshall, "Experiments on the Cause of the Loss of Activity of Indian Hemp," *Pharm. Jour.*, Vol. 82, p. 418 (1909).

one portion, granulated, unsealed; one portion, whole, sealed; one portion, whole, unsealed.

METHOD OF EXTRACTING SAMPLES.

All samples were finely granulated and made into fluidextracts according to the U. S. P. method except that no heat was used in the process, the final percolate being evaporated under an air jet.

METHOD OF TESTING.

The method of assay on pure bred fox terriers, essentially as described by us previously,² was employed in this work. In all cases the drug was administered in the form of a fluidextract.

EXPERIMENTS ON BASEMENT STORED DRUG.

A lot of drug, supposed to be of the 1911 crop, was received December 28, 1911. The assay of this drug was finished February 14, 1912, and it was found to possess approximately 75 percent standard activity. It was set aside for aging May 28, 1912, in a cool basement, as follows:

One portion of 69 pounds, granulated drug, was sealed in an alcohol barrel with enough alcohol to keep it well moistened.

One portion of 74 pounds, whole drug, was sealed in an alcohol barrel dry.

One portion of 74 pounds, whole drug, was left unsealed in the original box in which it was received.

February 14, 1917, these portions were assayed and gave results as follows:

The sample sealed in alcohol seemed not to have lost appreciably in activity.

Both dry portions seemed to have lost fully 60 percent of their original activity. (The drug at this date possessed from 25 to 30 percent standard activity.) No difference could be noticed between the activity of the dry portions.

EXPERIMENTS ON ATTIC STORED DRUG.

A lot of drug was received December 27, 1912, claimed by the drug merchant to be of the 1912 crop. The assay of this drug was finished January 1, 1913, and it was found to possess approximately standard activity. March 17, 1913, four portions were set aside for aging, each portion consisting of ten 500 Gm. packages, as follows:

One portion, granulated for percolation, in muslin bags.

One portion, granulated for percolation, in amber bottles with paraffined corks.

One portion, whole drug, in muslin bags.

One portion, whole drug, in amber bottles with paraffined corks.

These portions were stored in an attic room of the laboratory where the temperature varied from 65 to 105° F., the average temperature for fall, winter, and spring being about 75° F., and for the warm summer months about 90 to 95° F.

It was our intention to assay these samples at least once each year, but the pressure of other work hindered to such an extent that we made, aside from the

² Eckler and Miller, "A Study of American Grown Cannabis in Comparison with Samples from Various Other Sources," *Eighth International Congress of Applied Chemistry*, Vol. 17, p. 23.

original testing, only three assays over a period of about 50 months. A carefully prepared fluidextract made from the same drug was used for comparison. This fluidextract was preserved in two well-filled, one-pint, amber bottles with paraffined corks, until the first aging period was over, that is, until the aged samples were assayed for the first time. After this time, the fluidextract was kept in well-filled, one-ounce, amber bottles with paraffined corks. These small bottles were placed in a glass cupboard in the laboratory, and a fresh one was opened for each succeeding assay.

March 31, 1914, first assay of aging samples. (Approximately $14\frac{1}{2}$ months from date of first assay.) At this time no decided deterioration could be noticed with certainty. A few of the results suggested a very slight lessening of activity.

December 14, 1915, second assay of samples. (Approximately 35 months from date of first assay.) All samples had apparently lost about 60 percent of their original activity. No decided difference could be noticed between them. The results on three out of eight dogs seemed to be slightly in favor of the sealed samples.

April 4, 1917, third assay of samples. (Approximately $50\frac{1}{2}$ months from date of first assay.) All samples seemed to have lost considerably over 90 percent of their original activity, in fact, ten times the originally active dose caused not more than barely perceptible symptoms in some of the dogs, while in the others, no decided effects were noticeable.

The fluidextract used for comparison still compared favorably with recently prepared preparations from fresh drug which were considered of standard strength.

REMARKS AND CONCLUSIONS.

From the results of the tests on the attic stored samples, the loss in activity was practically 100 percent in about 50 months. (The drug at the end of the aging period was, however, about 55 months old from date of harvest.) This would give an average loss in activity of about 2 percent per month. Apparently, however, the deterioration did not proceed so rapidly at first, for in the first period of about 14 months not more than a very slight deterioration was noticeable, while during the next period of about 21 months there was a deterioration of nearly 60 percent of the original activity, and during the last period of about 15 months there was apparently a loss of approximately 40 percent.

The dry samples stored in the basement lost in about 60 months, approximately 60 percent of their original activity, or about 1 percent each month on the average. (This drug at the end of the aging period was about 65 months old from date of harvest.) These results in connection with those of the preceding paragraph, would seem to suggest that the warmer temperature of the attic was influential in increasing the rate of deterioration.

Drug stored in sealed containers in a dry state did not retain its activity appreciably longer than when stored in unsealed containers, not did it retain its activity appreciably longer when stored whole than when granulated.

Granulated drug sealed in a tight barrel and well moistened with alcohol seemed to retain its full activity for at least 60 months.

LABORATORIES OF ELI LILLY & Co.,
INDIANAPOLIS, INDIANA.

ABSTRACT OF DISCUSSION.

C. R. ECKLER: We carry this method out in a specially constructed kennel where the animals are in stalls in pairs, and so arranged that they cannot see each other or anything about the room which might attract their attention or excite them. We determine the smallest amount of the drug which will just produce incoördination of the muscles. It is a method that must be studied out individually and one must become thoroughly acquainted with the susceptibility of the dogs to the drug.

H. C. HAMILTON: I was not sure in most of his work whether Mr. Eckler was speaking of the crude drug that had deteriorated greatly, or the extract.

C. R. ECKLER: I was speaking of the crude drug. Every time I made an assay, I extracted a sample of the crude drug and made a fluid extract. In my second experiment I made all my comparisons with a fluid extract which was made at the beginning, from the crude drug. That was carefully preserved as a standard for comparison, but at each assay I extracted a new sample of the crude drug.

H. C. HAMILTON: This report is very decidedly different from the results that I have obtained. I have tested old samples of Cannabis Indica that have been preserved with no particular care—I distinctly remember one sample ten years old that I found accidentally preserved—it was simply chucked away on the back part of a shelf. While, of course, I cannot say that it had not lost any of its activity, I can say that it was fully up to the standard of the ordinary drug; and that would rather be contrary to the results that Mr. Eckler obtained.

There is another point I would like to bring up, and that is just a question about the method. This subject is getting rather threadbare, but the original method as proposed by Cole, of Houghton's method—said nothing whatever about the breed of dogs. We do not use any particular breed. We select a dog that is susceptible, regardless of what breed, nor do we determine the smallest dose that will produce incoördination. We have a standard test dose, which does not agree with that of the U. S. P. We have a standard test dose and detect with it the difference in the activity of the drug, not by having in one case shown activity and in another case not, but that it shows differences in degrees. Those are two points in the Houghton Method, that the original publication of it was rather specific on, I think. I have not found Cannabis in any form to deteriorate appreciably, except in the powdered extract form. We are now using a standard solid extract for comparison, the sample is at least seven years old, and it is as good as the average sample—better than some—and just a little less active than some of the very best samples that are imported.

C. R. ECKLER: I should imagine that the deterioration of the samples reported on might differ from others. As to the deterioration of crude Cannabis, I might say, that this work was stimulated by the fact that some years ago we became rather overstocked with Cannabis and one lot in particular deteriorated to such an extent before it could be used up, that it was discarded at a loss of several hundred dollars. Fluid extracts and solids carefully prepared retain activity for a very long time but I have had fluids that deteriorated very materially. We also to some extent take into account in this work, as Mr. Hamilton has said, the depth of symptoms, but where we give dogs large doses, ten times the original dose, and fail to see any symptoms, we conclude, of course, that the activity is gone.

HAROLD GRAY: As I understand it, there was no deterioration of the fluidextract?

C. R. ECKLER: No, I did not say that, but I say that carefully prepared fluidextracts kept in small containers, well filled and not opened, will retain activity for a long time. I do not say there is no deterioration, but I have had preparations for five years that were still approximately up to their original activity. But I have seen fluids that did lose materially in activity.

STANDARD CANNABIS.*

BY W. A. PEARSON.

The United States Pharmacopocia IX requires that a standard Cannabis be used when testing the physiological activity of this drug or its preparations. This standard Cannabis is used to compare the degree of muscular incoördination produced by doses of various sizes of the preparation being tested. It is stated that this standard Cannabis shall be a "Fluidextract of Cannabis or an extract which has been carefully prepared and suitably preserved." "A standard fluidextract will produce incoördination when administered to dogs in the dose of 0.03 mil for each kilogramme body weight of dog."

It has long been known that dogs differ markedly in showing muscular incoördination when fed preparations of Cannabis in the same relative dose—hence a standard based upon the power of a preparation of Cannabis to produce incoördination in doses of a definite size in proportion to body weight is erroneous.

Furthermore, the standard that may be selected by one manufacturer may be quite different to that selected by another.

In consideration of the above conditions, I suggested in a paper read before the American Pharmaceutical Association last year and published in the JOURNAL for 1916, page 1194, that The Committee on Physiological Testing of the American Pharmaceutical Association prepare a composite standard fluidextract. Each member of this Committee was asked for a quart sample of Fluidextract of Cannabis which he considered of standard physiological activity. Equal parts of the Fluidextracts of Cannabis marked as follows were mixed:

Parke, Davis and Co. (East Indian), No. 2146027.

H. K. Mulford & Co., No. 22164-810168.

Eli Lilly and Co. (Indian), No. 125755-509472.

Smith, Kline and French Co. (Indian), No. 3017218.

After allowing to stand in a tightly stoppered bottle for three days the mixed fluidextracts were filtered rapidly through paper and put in four-ounce amber bottles. Two of these bottles have been sent to each member of the Committee on Physiological Testing of the American Pharmaceutical Association, and it is hoped that not only the manufacturers represented will use this sample for standard, but that this material will be used generally for a standard in testing preparations of Cannabis. A sufficient supply of this standard will be kept so that portions will be available for all who may desire a specimen for physiological standardization. These bottles will be kept at room temperature, as there is no evidence that Fluidextract of Cannabis deteriorates on keeping in tightly stoppered small bottles.

LABORATORY,
SMITH, KLINE & FRENCH CO.

* Read before the Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

RESOLUTION ANENT STANDARD FOR CANNABIS.*

WHEREAS, The standards of strength for Cannabis and its preparations introduced and made mandatory in the ninth revision of the U. S. Pharmacopoeia are open to just criticism as at once illogical and lacking in definiteness, and

WHEREAS, Biological assays of much greater merit and importance, although given official recognition in the new Pharmacopoeia, are not made mandatory, and

WHEREAS, Under the new pharmacopoeial standard, Indian Cannabis in all probability equal in activity to that which has hitherto been imported is now practically excluded from the American market on the ground that it does not comply with U. S. P. requirements, therefore

Resolved, That the Pharmacopoeial Revision Committee be requested and urged, 1st to modify the official test so as to eliminate its vagueness and self-contradiction, and, 2nd, to make the biological assay for Cannabis optional as in the case of Digitalis and other drugs for which biological assays are provided.

IMPORTANCE OF THE RESOLUTION.

By Act of Congress, confirmed by enactments of the various State Legislatures, the U. S. Pharmacopoeia is declared to be, within its scope, the supreme legal authority. In the recent revision of this authoritative work multitudes of changes have been made in the endeavor to remove inconsistencies and imperfections, and the work was done with such a sense of responsibility that the instances in which new errors were unwittingly introduced in making the changes have been very few.

The new standards for Cannabis and its preparations are a conspicuous exception. The error that was made after all is one easily rectified. An assay process was described on page 604 of the text to which little or no exception is taken by those who have been accustomed to biological assay methods. But on turning the leaf we find that *this assay process has not been adopted*. The assay consists in a series of tests by which the relative activity of the sample under examination and that of a standard product is determined. The experiments are made on dogs whose reaction to the drug has been previously carefully studied. It is assumed that the susceptibility of the animal is proportioned at least roughly to its weight, but that is not a matter of great consequence in the tests. It is first ascertained with regard to each animal what is the minimum quantity of the standard which will cause signs of "muscular incoordination." Suppose that that quantity is found to be 0.75 mil. The minimum quantity of the sample under examination which will produce an equal disturbance in the nervous system of the same dog is then ascertained in a series of parallel experiments, and so by a simple proportion, the strength of the sample is deduced. If the minimum dose were found to be 0.65, the sample would be known to be stronger than the standard in the ratio of 65 to 75 or 1.00 to 1.15+. The result would be conclusive at least if the experiments were made by an expert although it is obvious that there would be no great exactness in the conclusions deduced.

But the final paragraph of the text turns to confusion all that precedes. It is headed "Standard," but goes on to declare that there *is* no standard for Cannabis, and then immediately proposes to use as a standard "a fluidextract or an extract that has been carefully prepared and suitably preserved." That is to say, the drug is a standard in itself—but then why should one go to the trouble of assaying it? Grant that the real meaning is that an arbitrary standard for the drug must be adopted, which may be a fluidextract (or extract) prepared from an average sample of the drug, *i. e.*, from a score or more of samples of cannabis of recent crop. It is on this principle at all events that the standards adopted by manufacturers who offer products standardized by biological assay have been originally prepared.

Well, a standard has been provided, such as it is, but the Pharmacopoeia makes no use of it. Instead, it introduces an entirely different plan for determining the activity of the drug. Now it is the dog that is to be the standard—or rather a kilogramme of dog—without regard to race,

* Presented before Scientific Section, A. Ph. A., Indianapolis meeting, 1917, by W. S. Hubbard for A. B. Lyons. The latter desired it to be understood that he did not present the subject as a member of the U. S. P. Revision Committee. The resolution was referred to the Committee on U. S. Pharmacopoeia of the American Pharmaceutical Association.

age, sex or previous condition of servitude. To be sure we have been told on page 605 that dogs "differ considerably in susceptibility to the drug" and that it is best to select animals "which react easily to the drug." Now, however, we are told that a standard fluidextract will produce incoördination when administered to "dogs" in the dose of 0.03 mil for each kilogramme of body weight of dog, and this it seems, constitutes the whole test. Weigh your dog (after a 24 hours' fast) multiply his weight in kilogrammes by 0.03 to find the dose in mils which should produce incoördination. Half that dose might do it, but no matter about that. Precisely what degree of incoördination is to be looked for is not stated—could not well be, in the nature of the case. It is clear that the test as it stands admits of no quantitative interpretation.

I think I have amply justified the statement of the preamble, *viz.*, that the pharmacopoeial requirement is "open to just criticism as both illogical and lacking in definiteness." *The remedy consists in amending the final paragraph of the text to bring it into consistency with that which precedes.* In place of the statement, "As there is no substance of definite composition which can be adopted as a standard, a fluidextract of cannabis or an extract which has been carefully prepared and suitably preserved may be utilized for this purpose," there should be some such statement as the following: "Since we have not been able as yet to isolate any definite chemical compound as the active principle of the drug, an arbitrary standard must be adopted, representing as nearly as possible the average activity of cannabis of recent crop. On account of its superior stability, a fluidextract is to be chosen for this purpose. Such standard is to be provided by—subject to approval by the U. S. Public Health Service. One mil of this standard shall be considered the equivalent of one gramme of standard cannabis or ten mils of standard (official) tincture or 0.1 gramme of standard extract."

This last ratio is different from that implied in the present pharmacopoeial requirement (about 0.133) and is subject to modification. How the blank left should best be filled is not to be settled without due consideration and discussion. Personally, I incline now to think that the responsibility should be assumed by either the American Pharmaceutical Association or the American Drug Manufacturers' Association, perhaps more appropriately the latter.

The responsibility will not end with the preparing of the original standard. It is equally important that the standard be maintained of uniform strength as time goes by. Since a fluidextract suffers more or less deterioration with age it will be necessary to make frequent assays of the standards, employing dogs whose susceptibility has been accurately established—and several of them at that, to guard against possible change in susceptibility—and so from time to time adjusting anew the strength of the standards.

Reasons why the change is imperative. The present pharmacopoeial assay is based on the assumption that all dogs are equally susceptible to cannabis intoxication, exactly in proportion to their weight.

The falsity of such an assumption is so obvious that argument is unnecessary. Even admitting that the dog is one selected as a good subject, there remains the fallacy that an agent producing its effects on the nervous system will act on an animal quantitatively in proportion to its body weight. Here in the outset is introduced an element of extreme variability into the result of the assay. Differences on this account of fifty to one hundred percent might be looked for.

But further, the personal equation will surely enter as a very large factor into the decision whether or not the test animal shows "muscular incoördination." The Pharmacopoeia does not even state that the effect to be produced is a minimum one as it should do, and it is only the expert who is competent to pronounce with certainty on the signs of incipient incoördination. Differences of ten to twenty-five percent are likely to occur from this cause.

Are these sources of serious discrepancy removed by the proposed change in the pharmacopoeial assay? Emphatically, they are. The assay now is simply a matter of comparison of sample with standard. If any reasonable care is used in carrying out the test, any one of average intelligence, after sufficient practice—an essential prerequisite, just as chemical training is essential in a quantitative chemical determination—can fix within a margin of say ten percent the relative strength of sample and standard. Of course, the measurements of the doses administered to the animal which will often be a fraction of a mil must be made with great exactness.

Why the matter concerns you and me. Granted that this particular assay is faulty, why should we give ourselves concern about it? The reason is that the Pharmacopoeia has become

a legal authority, its verdict in any matter is final, so that if a product of mine is condemned as misbranded because not in conformity with pharmacopoeial requirements, my only recourse is to challenge in the courts the authority of the law itself. The chance of winning such a suit is small, and even success would not give one unmixed satisfaction, since it would prove our best friend not infallible and hence liable to be unjustly attacked when its authority happened to be our dependence.

Why a biological assay of cannabis should not be made mandatory. It is hard to understand why it was that the Cannabis Assay was singled out from the list of biological tests to be made compulsory. Biological assays require expert skill which is at present possessed by very few individuals, so that as yet such assays ought not to be made mandatory. There are those who question the value of any tests of this description—unless the experiments are made on a human subject. We have at best learned only the rudiments of an art which we believe has large possibilities. The time may not be distant when there will be established laboratories for carrying out tests of this character, in charge of experts. Clearly, it is not practicable now for the ordinary pharmacist, or even the average drug manufacturer, to attempt work of this character. We favor therefore withdrawal for the present of the requirements that cannabis and its preparations shall be standardized by biological assay.

We have in mind nevertheless one valid reason why some standard for this particular drug should have been provided. As long as Indian Cannabis alone was official, the reason did not exist. The revisers of the Pharmacopoeia, however, have made official American grown cannabis on equal terms with the imported drug. Why this should have been done just at the time when the Harrison Act went into effect, imposing stringent regulations on the traffic in cannabis as a dangerous habit-forming drug, it is not easy to explain. The supply of the imported drug was surely ample for all legitimate uses. It was certainly not a case of developing a new American industry for which there was any known demand.

There has been a great deal of skepticism in regard to the claim that American Cannabis is equal in activity to the imported drug. There is unimpeachable testimony from experts that some samples of American Cannabis do compare favorably with the best Indian Cannabis. But the American Cannabis procurable in the market is reported far inferior in activity to Indian Cannabis.

Certainly the American grown drug as a rule yields far less extractive than the imported, the ratio being on the average about 6 to 10. This means either that the American drug is weaker than the Indian or else that an extract made from the American is much stronger than one made from the Indian. Consequently, the two varieties of cannabis cannot be included under one pharmacopoeial title without confusion.

If cannabis were an important drug therapeutically, or one largely used, it might be worth while to take trouble in order to utilize a home product. The fact is that the chief use actually made of cannabis is in the preparation of corn remedies, in which apparently it is chlorophyll rather than any active constituent that counts. Naturally, the American Cannabis for this use is superior to the imported, but it is its color, not its possible anodyne action, which concerns the purchaser.

However, it does not seem to me necessary to ask the Revision Committee to reopen the question of including American Cannabis under the title Cannabis. It seems to me sufficient to revise the assay method so that it shall give correct, if not very exact, information regarding the activity of any sample examined. For reasons already stated, it is certainly inadvisable to require at present for cannabis or any other drug standardization by biological assay. A few years hence such standardization will be practicable and therefore imperative.

THE U. S. P. IX. SHOULD IT CONTAIN AN ASSAY FOR THE WATER CONTENT OF LIQUOR CRESOLIS COMPOSITUS?

BY W. W. DAVIES.

Liquor Cresolis Compositus is one of the pharmacopoeial preparations which is peculiarly situated in that two separate divisions of the Department of Agriculture have jurisdiction over its entrance into interstate commerce. The Bureau of Chemistry sees that the product complies with all the requirements of the Federal Food and Drugs Act of 1906, while the Insecticide and Fungicide Board enforces the Insecticide Act of 1910 under which it comes as a germicide.

In the U. S. P. IX there are no tests given pertaining to this particular preparation, although, in order that the statement on its label will comply with the Insecticide Act of 1910, it is necessary that one determine the water content or inert matter.

Since this is required to satisfy the law, is it not desirable that some official method for such an assay be recognized in the U. S. P. IX, the book which is to contain the official formulas or tests applicable to the articles mentioned therein?

The following test is used in our analytical department to obtain the water content of Compound Solution of Cresol. No claim of originality, however, is made for the method given here and it is merely appended to the foregoing remarks in order to place it before those who are not already familiar with it.

Assay: Measure 100 mls of the Compound Solution of Cresol and 100 mls of Xylol into a dry distilling flask. Rotate carefully in order to mix the two liquids and distil through a dry condenser. Collect about 150 mls, or until the distillate is coming over clear, in a dry graduated cylinder. The number of mls of water, the lower layer, gives the percent of water present.

LABORATORY OF DAVIES, ROSE & CO., LTD., BOSTON, MASS.



HARRY B. MASON



P. HENRY UTECH

SECTION ON EDUCATION AND LEGISLATION, AMERICAN PHARMACEUTICAL ASSOCIATION

WHAT COMPULSORY HEALTH INSURANCE WOULD MEAN TO THE DRUGGIST.*

BY HARRY B. MASON.

Compulsory health insurance would be the severest blow the American druggist has ever had to face. At one stroke it would rob him of three-fourths of his business in medicines and supplies for the sick. But even this is not all. In addition it would compel him to pay 40 percent of the cost of insuring his own employees. And in the third place, as a citizen of the State and the nation, it would double or treble his burden of taxation. To no one, indeed, would this visionary and socialistic scheme of legislation prove more disastrous than to the druggist, and it is not exaggerating the possibilities in the slightest degree to say that with many hundreds and perhaps thousands of pharmacists who operate on a slender margin of profit, compulsory health insurance would mean the difference between success and bankruptcy.

But, some of you hasten to reply, if this form of State insurance is a public necessity, and if it will inure to the greatest good of the greatest number, it is no argument against it that it may threaten the success and even the very life of any one class in the community. This is true, but I believe you will agree with me that compulsory health insurance, while it exhibits some attractive features, is like one of those European harbors that present a smiling surface but are thickly laid with mines underneath.

WHAT IT IS.

First, however, let us ask ourselves: "What is compulsory health insurance anyway, and who are its proponents?"

Down in New York State a group of teachers, socialists, sociologists, and reform workers have combined themselves under the misleading name of the American Association of Labor Legislation. I used the word "misleading" because labor is not represented in the organization and also because the American Federation of Labor is violently opposed to it and its proposals. This Association has drawn up a bill which was introduced two years ago in three State legislatures, and last winter in no fewer than ten or more. Paid lobbyists appeared everywhere in behalf of these measures. Paid orators mounted the platform of public meetings to spread the propaganda. Literature was distributed broadcast, and it cannot be doubted that the whole movement will continue to be pushed with the greatest of vigor and determination during the next few years. We shall make a fatal mistake if we dismiss it as a chimera which cannot possibly become realized in fact.

* Read before the Section on Education and Legislation, A. Ph. A., Indianapolis meeting, 1917.

What does the bill provide for?

It insures the health of every manual laborer in the country regardless of his wage, and of every other type of worker earning \$1200 or less annually. Let us take the case of a single individual and see what measure of protection it is proposed to give him. If he becomes sick, or is disabled by accident, he will receive two-thirds of his wages during absence from work, and this generous payment will, if deemed necessary, be continued as long as twenty-six weeks in any one year. In the meantime he will be granted free medical service, free surgical and nursing attendance, free medical supplies, free dental work, and free hospital accommodations whenever necessary. If he dies, the actual expense of his funeral is to be paid up to an amount not exceeding fifty dollars.

More than all this, the same group of services will be given to such of the members of his family as are dependent upon him. Whenever his wife undergoes the interesting experience of maternity, "all necessary medical, surgical and obstetrical aids, materials and appliances" are to be provided. If the woman is herself a worker, and therefore insured, she receives the foregoing maternity benefits and also two-thirds of her wages for a period of two weeks before delivery and six weeks thereafter, meanwhile taking things as easy as possible at home.

It can readily be seen that these remarkable benefits mean an enormous outlay and that in every State millions of dollars must be raised. Where will the money come from?

Waiving the case of those whose wage is very small, it may be said in general while the employer will be charged with 40 percent of the cost, the employee with 40 percent, and the State is to make up the remaining 20 percent.

THE DRUGGIST'S BURDEN.

Of this burden the druggist, as already intimated, must indeed carry a heavy portion. First of all he is involved as an employer. All of his employees in the store, unless paid more than \$1200 annually, would inevitably be made beneficiaries of the scheme, and he must, therefore, pay 40 percent of the cost of "carrying" them. In the second place, as a tax payer, the druggist must pay his portion of the burden borne by the State, and I may add that this will be no slight figure. It has been estimated by conservative experts that compulsory health insurance in the State of New York would raise the annual tax levied against real and personal property from \$20,000,000 to \$41,000,000. In Ohio the tax would jump from \$3,300,000 to \$10,400,000, and in Indiana, where we are now gathered, the figure would be increased from \$1,600,000 to \$5,200,000. And this, mind you, is only 20 percent of the estimated cost of compulsory health insurance!

Where the druggist is most immediately and threateningly involved is in the competition that he must face from the State. In the early days, when the proponents of this scheme were feeling out sentiment, they declared that in all the larger cities, and wherever in fact it was feasible, medicines would be supplied at dispensaries organized by the local "funds" or "carriers." This would mean public drug shops operated by the insurance societies in direct competition with the druggist. Later on, thinking that so honest an avowal would arouse opposition, nothing more was said about dispensaries and no reference was made to them in the bills introduced last winter in the various legislatures. This was in perfect

harmony with the policy of keeping out of the measures anything that would be likely to provoke attack, thus rendering it easier for such legislation to be secured.

But don't let anybody think that because certain things are not mentioned in the bill, they will not be achieved afterwards. The measure provides that the whole scheme is to be supervised by a State commission made up of three individuals. Among other things this commission will have the power to frame regulations for the enforcement and application of the law, and the adroit expectation is that the regulations will contain such features of the plan as it is thought wise and politic to keep out of the law itself.

THE ONLY ALTERNATIVE.

But suppose, for purposes of argument, that the dispensary features were not adopted in some cities. What then? There is only one alternative. In Section 7 of the bill it is declared that every "carrier" must provide for its insured members certain things, among which are medical and surgical supplies. How is the "carrier" to provide them? Either by means of a controlled dispensary or hospital on the one hand, or on the other by a special contract with one or more druggists in each locality. If a contract is entered into with one or more druggists, it takes the business away from all the others, and those who get the contract will find that it isn't worth anything because prices will be screwed down to the limit.

This has been the actual experience of "chemists" in Great Britain. There a fixed schedule of prices has been established, but the prices are so low that, when the cost of labor and the expense of doing business are considered, the profit more than disappears. An absurdly low advance on the net cost is allowed on each individual item entering into a prescription, and the druggist is permitted a dispensing fee of four cents for all mixtures up to 8 ounces. Think of it!

The British "chemist," unlike his American cousin, operates at a very low expense, and this is particularly true in the smaller towns. Frequently living in connection with his shop, keeping only one boy or none at all, having large stretches of leisure on his hands, and paying far less for rent and every other expense, he is able in some instances to take this insurance business and make a small profit from it. But it can well be imagined what would happen to the American druggist under the same conditions. Every prescription so filled would be dispensed at a loss, and the greater the business the greater the sacrifice! This is precisely the experience of the large and successful pharmacists in Great Britain—the men who know what their expenses are, and who realize what they must do to make their business yield them a profit.

DISASTROUS RESULTS.

Hospitals form an important part of the scheme, and it cannot be doubted that in the cities of any size all medicines would be furnished either by hospital dispensaries or by the special drug dispensaries. Now what does this mean for the druggist? It must be remembered that three-fourths of all wage earners and their dependents are to be made beneficiaries of this insurance. Three-fourths of the druggist's business in drugs, prescriptions, and medical supplies, therefore, would leave his store and be deflected to public dispensaries. *Does the druggist want to lose three-fourths of his pharmaceutical business on the one hand, and on the other be made to pay three times his normal taxes?*

Doesn't this whole plan mean, indeed, that large numbers of druggists would no longer be independent business men, but would revert to the status of clerks and employees in these public dispensaries and hospitals? Either that, or else the drug stores of the land, like Hamlet played without the Prince, would cease to be drug stores in fact, with most of their drug business gone, and would in effect become general stores competing with other merchandising shops of which there are already far too many. The prospect is scarcely a rosy one. The druggists of America will not, I assume, give up their independence without a fight.

GENERAL ASPECTS OF THE MOVEMENT.

I have so far discussed this whole question more or less exclusively from the standpoint of the druggist. But of course, as already intimated, if this movement is to be defeated, it must be defeated because it is against public policy, and not because it may wipe the drug stores of the country out of existence. Is it against public policy?

It certainly is, and for reasons so numerous that I cannot hope to discuss them all in a brief address. In the first place it is almost enough to say that the beneficiaries themselves are for the most part to be found arrayed against the proposition. The scheme has been devised ostensibly for the protection of the American laboring man, but the American laboring man doesn't want it. Here and there a labor association, it is true, has supported the idea, but the great majority of such organizations have declared themselves against it. The American Federation of Labor, which speaks authoritatively for union labor, is particularly opposed to the scheme, and Samuel Gompers himself has time and time again declared himself in no uncertain terms.

As a matter of fact, the laboring man sees a great menace concealed behind this adroit and ingenious suggestion. He is instinctively afraid of the political machine that will be developed in every State to take care of compulsory health insurance. He realizes that what protection he gets will cost him far more than it is worth, and that waste and extravagance will accompany the whole business at every step. He senses the vital fact, too, that employers of labor, once they must carry this great burden, will see to it that it is reduced as much as possible and that employment is given only to the young, the fit and the strong; men who are likely to become expensive risks will go vainly from one factory to another in search of work and will find it nowhere. And lastly, the American laboring man, like every other American, wants to have the free and unrestricted right of choice left to him, and doesn't want to be compelled to do anything against his will.

UN-AMERICAN COMPULSION.

One of the greatest arguments against the plan, indeed, lies in its compulsory element. The proponents of the idea insist that it will be a failure if it is not made compulsory, and yet, when it is made compulsory, it becomes un-American to the last degree. Three people out of every four in the community are involved and they must pay for this insurance whether they want it or not—whether they can afford it or not. They must patronize certain physicians whether they prefer them or not. They have no choice in the matter—there is no alternative. The money is taken out of their pay envelopes every Saturday and there is no help for it.

This represents one side of the proposition, but there is another side as well. Not only are three people out of every four compelled to accept such protection more or less against their inclinations, but the fourth individual in every group of four persons must largely contribute toward the protection forced on the other three. In other words, one-fourth of the population, not beneficiaries because not manual laborers or because earning more than \$1200 annually, must dig down in its pockets in order to have the other three-fourths provided with something that they may or may not want. Some of us are to have charity forced on us, and others of us are to contribute this charity against our wills. Does this sound like American liberty, or is it European paternalism run mad?

Here, too, is one result of compulsion as it has worked out in Great Britain. I know personally of a manufacturing establishment employing something like seven hundred intelligent people, the great majority of whom are beneficiaries of the plan. They are compelled to stand their portion of the expense. But do they use the panel physicians and do they avail themselves of the inferior drugs which are provided by the administrators of the act? The majority do not. They continue to consult their own private physicians and to purchase drugs in which they have confidence. I am informed that this same situation exists all over the country, and thus we have presented to us a picture of the poor working man compelled by the State to pay twice for what he gets.

Furthermore, it is an idle dream to suppose that this great burden of expense is going to be nicely and accurately divided—40 percent paid by the employee, 40 percent by the employer, and 20 percent by the State. You and I know exactly what will happen. The employer will pass along his tax to the consumer as he does every other tax. He must contribute 40 percent of the cost of protecting his own employees, and he must also contribute his portion of the 20 percent carried by the State. The sum total he will consider as an addition to the expense of doing business, and he will increase the selling price of his products accordingly. The consumer will pay the tariff as he always does, and in the last analysis, therefore, compulsory health insurance will hark right back to the average man. He is supposed to get something for nothing, but will he? He will find himself paying three prices for what little protection he secures.

Advocates of compulsory health insurance frequently refer with gratification to the conditions in certain European countries where State health insurance has obtained for some years. Now nothing is more common than the ease with which half a dozen theories may be proved from the same set of facts. Not only do fifteen or twenty religious cults, differing more or less vitally from one another, draw evidence of the accuracy of their philosophy from the same Bible, but even a mental vagary like Christian Science is made to rest on the same foundation. Desiring, if possible, to avoid this common error, and to get at the real truth of conditions in Great Britain, I wrote to an unprejudiced and impartial observer in London who I thought could brush away all misleading facts and figures and give me the heart of the situation.

THE BRITISH ACT.

He writes me that the national insurance act of Great Britain was originally framed as a vote-catching move, pure and simple. It was put through for that

special purpose at a particular time, and with no financial provisions whatever. Once enacted, all interest in it was suddenly dropped by the promoters, and for some years it has been more difficult to get the act mentioned in Parliament than to get a camel through the eye of the traditional needle. Moneys for the practical application of the law have not been forthcoming in sufficient measure, and the whole business has been hampered at every step. The promises originally made in connection with the bill still remain unfulfilled after several years of experience.

More seriously yet, my informant tells me that Great Britain has experienced what was inevitable in connection with socialistic legislation of this sort. A host of administrators were required, and at once the vast majority of them set about seeing what they could get out of the situation at the expense of anybody and everybody. The poor insured person entirely escaped consideration in every instance.

Now this is the view of a student who has observed conditions with a neutral eye from the very beginning. It is possible to take isolated facts and figures and to arrive at the conclusion that the national insurance act in Great Britain has been most salutary in its effects, but I prefer to accept the opinion of an able observer who is familiar with all the conditions and who knows what he is talking about.

Now let me reason by analogy. In Great Britain the benefits provided are very much smaller than are proposed in this country. Only those earning less than \$800 annually are beneficiaries, whereas here the figure is \$1200 for office help while every manual laborer is included regardless of his wage. In Great Britain the maximum cash benefit a week for men is \$2.40, and for women \$1.80. The maternity benefit is limited to \$7.20 exclusive of medical attendance. The amount paid for drug supplies and for medical service is also small in comparison, and it may be said in general that the benefits there are not more than 20 percent of what is proposed here. If, nevertheless, with benefits relatively so small, graft of every sort could arise in an old and well-established government like that of Great Britain, what would happen in the United States with spoils four or five times as great made available?

Isn't it plain that we should build up a political machine that would magnify all the evils with which this country is now afflicted—a machine that would use the cloak of charity to conceal its nefarious designs? Millions upon millions of dollars would be wasted annually, and the chief beneficiaries would be the army of politicians who desire nothing quite so much as to fatten themselves at the public trough.

Of course plausible and moving pleas have been made for compulsory health insurance. Some very excellent people are heartily in favor of it. Humanitarian sentiment seems to rest at the bottom of it, and people with large hearts and generous impulses want the ills of humanity relieved as much as possible. But theory often has a habit of running away from facts, and the glamor which surrounds many reforms will not stand the cold light of reason. Moreover, many of the advocates of this panacea are in it for what they can get out of it. Much of the sentiment which flows so eloquently from their lips is made to conceal the hope of profit which regulates their desires.

THE MEDICAL PROFESSION.

In the medical profession opinion is divided. Some medical associations have declared for the proposition; others have declared against it. Within the last year a number of physicians, some of them members of the American Pharmaceutical Association, have declared the movement a public-spirited one and have argued that druggists should support it though it drives us into the sea. We should be willing to sacrifice ourselves on the altar of humanity.

But it is easy for the physician to assume this lofty position. The medical profession is very efficiently organized, and in the event that compulsory health insurance obtains in any State the doctors will be strong enough to force recognition for themselves. Already, indeed, they have had written into the bill certain features which afford them ample protection. They are assured of proper compensation in the event of success, and one reason why so many physicians favor compulsory health insurance is that it will greatly increase the earnings of the rank and file of the profession. The average income of American doctors is about \$900, and it has been estimated that this figure would jump to about \$2000 if compulsory health insurance became a fact.

Now there are a great many objections to be urged against compulsory health insurance as it is proposed at the present time. I won't trespass upon your patience to enumerate them all. Probed to the bottom, the whole scheme is nothing but socialism—pure, simple, and unadulterated. It would put the State into the field now occupied by private enterprise. Is this what we desire? Is there any more reason for the State to sell health insurance or drugs or medical service than for it to sell shoes or groceries or clothing? Do we want to encourage this entering wedge? Do we want the State to take over business activities one by one? Are we anxious to destroy the individual initiative, the business genius, which has made America great? Are we desirous of sacrificing and discarding private enterprise and becoming wards and paupers of the nation?

And this thing is worse than almost any other form of State business would be, because it is made compulsory. We must take it and pay for it whether we want it or not. We have no choice in the matter. Isn't this the worst possible form of oppression? Isn't it autocracy instead of democracy?

SPECIOUS CLAIMS.

The fathers of the idea say that sickness is a public evil and that compulsory insurance would lessen it. But it hasn't been lessened in Europe. They say that the cost of health protection would be lowered. But it hasn't been lowered in Europe. They argue that the poor man, unable to protect himself, must be protected by the State. But the man who most needs protection won't be protected at all by this plan.

Who is this man? Is it he who is employed at a good wage and has a steady position? No. He can take care of himself. Who is he, then? He is the man who, once compulsory insurance goes into effect, loses his job, either because he is too old, too sickly, or has habits which make him a bad physical risk. Employers, in self defense, are going to get rid of all such men, and once they lose regular employment they are no longer beneficiaries of the scheme. For it is notorious that what are called "casual workers" and men without jobs are left

out of the reckoning. What, then, becomes of the claim that the plan protects those who most need protection?

I repeat that the whole proposition is full of objections—so full that hours would be required to discuss them all. It would tend to destroy individual enterprise. It would start us on the uncharted sea of socialism. It would pauperize the very people who became beneficiaries of it, while failing to reach those most in need of protection. It would substitute governmental oppression for personal liberty. Heralded as an economic measure, it would waste millions of dollars annually. Presented as a specimen of efficiency, it would do more than anything else to fasten upon this country a reign of graft, incompetency, and malfeasance in public office.

A WARNING.

My purpose today is to issue a warning against this vital danger. If we do not organize against it, we shall certainly live to rue the day. If compulsory health insurance becomes a fact, it will not only be a public menace but it will be the greatest blow ever suffered by the drug trade of America. I am speaking of the plan in its present form. If it can be so modified and improved as to become a public benefit instead of a public danger, and particularly if the compulsory feature can be eliminated, druggists and other public-spirited citizens will desire to support it. The National Drug Trade Conference and the American Drug Manufacturers' Association have declared their opposition to the movement until time could be afforded for a more careful study of the situation, and this is the attitude that should be taken by the American Pharmaceutical Association and by all other branches and divisions of the trade. In the meantime, as these bills present themselves in the different State legislatures next winter, and succeeding winters, they should be opposed with all the vigor at our command.

In fighting them to the last ditch we shall not only be rendering a public service but we shall be protecting our own calling from the danger of partial if not complete extinction.

ABSTRACT OF DISCUSSION.

J. H. BEAL: I have tried to make a study of this subject for some years. I am more and more impressed, not only with the defects and objections to the bill, but with the enormous organization that has been constructed to thrust it down our throats whether we want to accept it or not.

It has been customary for pharmacists all during my life and experience to sit still in their chairs until some very objectionable piece of legislation has been enacted and then awake to do a lot of grumbling when it will do no good; but I say, for heaven's sake, if there is any way to awaken the American drug trade to the importance of this particular proposition, let us do it now, because it is going to be forever too late when these bills become a part of the laws of the land.

I want to call attention to a very adroit game that the proponents of this proposition are playing when they introduce a bill into the legislature. They know very well they can't slip a thing of that sort through at one session or are not likely to, so they profess to be animated by a very public spirit and ask that it be referred for thorough investigation as to its desirability, and that \$8,000 or \$10,000 (and I believe in one case \$75,000) be appropriated to make a thorough investigation, and along with this they submit certain questions which are to be answered by the commission. The purpose of the questions will be appreciated by every one who has ever heard a smart lawyer examine witnesses when he asks questions which are calculated to bring out the kind of an answer he wants to get before the jury. The questions to which the commissions are to secure answers are something like this: "Is it a fact that a serious spell of sickness,

depriving a laboring man of the power of earning wages, is a hardship and a disaster to such laboring man?" Who would need \$75,000 or an investigation committee to answer that? Another question is: "Is it a fact or is it not a fact that there are large sums of money lost annually due to loss of wages during sickness?" Still another: "Is it or is it not a fact that there are a great many people deserving better medical attention than they are now able to get?"

The whole thing is shaped so that the answers will be either "yes" or "no," focussing to one final conclusion, which is, that this particular measure of compulsory health insurance is the great panacea for all the evils from which we suffer in this world.

Now I hope that every member of this Section will take pains to study the subject. I have a bale of material already, expressions pro and con, and if any of you who have occasion to deal with this subject before legislative committees this winter, and you will give me time enough, I will see that you get copies of whatever material I have.

Compulsory health insurance presents a serious menace—the most serious that has ever come before the American Pharmaceutical Association. You can stop talking about higher standards and you can stop talking about prerequisite laws; you can stop talking about cut prices, and so on, because none of those things will interest you. There won't be enough left of your business to make these subjects worth discussing if public health insurance becomes a fact throughout the states of this Union.

ALFRED B. HUESTED: I wish to call attention to the necessity for immediate action from the fact that medical societies in different parts of the country are taking action with reference to this measure, many of them in favor of it, and have been doing so for some time past.

OREL JONES: Mr. Mason makes the statement that the doctors expect to increase their average income from \$900 to something like \$2,000. I would like to know how the British law has worked out as to the income of the medical profession?

HARRY B. MASON: The benefits in Great Britain are only about one-sixth of the proposed benefits here. Therefore the physician gets relatively little. The panel physician is paid a flat fee per patient per year. I have forgotten what it is, but I think it is only two or three dollars, and therefore the British physician isn't giving the patient very much attention. But the American doctors who favor the scheme say: "We can profit by the British experience and fix this thing right," and the model bill has been so framed as to guarantee them good fees.

OREL JONES: There is another thing I would like to mention here if it is permissible. Dr. Beal has requested early publication of Mr. Mason's paper in our JOURNAL. Wouldn't it be permissible to ask other journals to copy it so as to get it into general distribution?

F. H. FREERICKS: Mr. Chairman, my mind turns to the practical side of this question. As the reader of the paper has pointed out, there are now 13 states in which bills of this kind have been introduced. In other states commissions have been appointed who have for their needs all the way from ten to seventy-five thousand dollars, and these commissions are going to be busy doing their work and earning their money during the next two years. Now it is up to the pharmaceutical interests to get in touch with these commissions, and they can do it best, of course, through drug associations in the different states and through the branches of this Association that are now in many of our larger cities. This is an exceedingly important thing, because these commissions will be guided largely by those who come to them and who are either for or against the movement.

It seems to me exceedingly important that there be one central drug committee or body from which proper, reasonable, and logical argument will issue. I say we should be prepared, and it is the duty of this parent organization to frame the argument for the people, that will go to these various commissions, and I would point out to you, Mr. Chairman, that we have two men in our Association who are splendidly fitted to prepare that argument if they can be induced to give their time to it. I take the liberty of mentioning Mr. Mason and Dr. Beal. If the various associations in the drug trade could be induced to take up this matter with these commissions, with the arguments prepared for them, there wouldn't be any other industry so well prepared to head off this legislation.

I am convinced that these various commissions in the different states are anxious to have real information presented to them, and they will be forcibly impressed by it if it reaches them from local men, from men they know, and if it is in order, Mr. Chairman, I would move you that we recommend to the General Session the appointment of a committee, which shall pre-

pare the arguments for the various local committees and associations that are to be presented to these commissions.

C. M. WOODRUFF: We had this bill before the Michigan legislature last year and there was a public hearing at which all interests were represented. There were a good many things brought out at that hearing. The one I want to direct special attention to is this fact, and it was demonstrated at the hearing, that this bill, if it became a law, would virtually destroy the insurance that a great many healthy people were already depending on for protection. The bill was therefore opposed by the Maccabees society and other forces of that kind. The competition of the State would destroy such associations that were carrying hundreds of people who had come to that age that they couldn't get insurance in any other organization or old line company and wouldn't come under the protection of this insurance, and the insurance they had, and depended upon, would be destroyed. That was demonstrated quite conclusively at this hearing.

HARRY B. MASON: I would like to say a practical word. I was impressed with the argument advanced by Mr. Freericks in favor of some central bureau of information and assistance, and, of course, I shall be glad to give any help I can at any time. I may say the secondary purpose I had in preparing the paper was to advance arguments and facts which would be of assistance to legislative committees.

Now, a further suggestion occurred to me as Mr. Freericks was talking, and I would like to ask Dr. Beal how it can be utilized. The danger of this whole proposition will lie in the possibility of state enactments. The bodies that must get active are the state pharmaceutical associations. It is all very well for us to pass resolutions here, but we are more or less of an academic body, and unless what we do is translated into state action it isn't going to amount to anything. When these bills make their appearance in the state legislatures—there are bound to be ten or twelve of them next winter—what can we do to prompt the state associations to become active? That is the point that occurs to me. Yesterday the House of Delegates, I believe, voted to submit to the state associations some question suggested by this body for discussion. Isn't there some way that this particular subject can be presented to the state associations for discussion, and isn't there some way we can tell the state associations of the importance of this movement and the necessity of studying it and getting busy?

J. H. BEAL: I think after we dispose of this pending motion we should adopt one requesting the House of Delegates to lay this particular subject before all the local and state associations. I think we should also pass the resolution proposed by Mr. Freericks, providing for a committee of five, however, and letting the committee get its material ready to send out to the proper bodies and arouse their interest, for a good many of them have not heard of the subject yet. I think the state boards of pharmacy should be included—everybody that has any influence.

The Section on Education and Legislation recommended to the General Session that a committee of five be appointed to prepare arguments in opposition to Compulsory Health Insurance for presentation to state and local pharmaceutical associations, boards of pharmacy and other bodies opposed to such legislation. This was adopted and also the following declaration:

The American Pharmaceutical Association desires to express its disapproval of the Compulsory Health Insurance Bills introduced in different state legislatures during the past winter. It is quite likely that, in the interests of wage earners of very limited income, something in the way of social insurance should be provided under the supervision of the State, but the present plan certainly goes much too far and is open to many vital objections.

It would put the State into the business of supplying health insurance, drugs, and medical service with no advantages of economy or efficiency over present agencies, but with the great disadvantage of waste and extravagance at every step. Involving expenditures of millions upon millions of dollars annually, the cost would inevitably hark right back to the very people whom it is supposed to benefit, and would make them pay dearly for the little protection they secured. En route, moreover, it would fatten an army of state and local employees feeding at the public trough, and would furnish both the motive and the opportunity for the development of a political machine of vast proportions.

In the event that some equitable and judicious plan is later on offered to the American people we should be glad to give it our approval and our support. In the meantime we are unalterably opposed to the proposition for reasons so numerous that they could not well be stated in a resolution of this kind.

SECTION ON COMMERCIAL INTERESTS, AMERICAN PHARMACEUTICAL ASSOCIATION

MINUTES OF THE SESSIONS.*

The first session of the Section on Commercial Interests of the American Pharmaceutical Association was called to order Wednesday morning, August 29, 1917, at 10:00 o'clock by Chairman P. Henry Utech, of Meadville, Pa.

Secretary Robert P. Fischelis occupied the Chair during the reading of the Chairman's address.

ADDRESS OF CHAIRMAN P. HENRY UTECH.

We are met today under conditions most unique in our Association's history. The prolongation of the European War into its fourth year of combat has affected every phase of our business and social life. With the declaration of our own country, a few short months ago, to enter the War, our personal interests have become more directly involved in the great world-conflict, thereby entailing added burdens and responsibilities on our fellow-workers. As this is being written, Congress is debating the question of imposing a war-tax on many articles usually sold by the pharmacist. An additional tax on alcohol is also to be imposed. The prices of drugs and chemicals, already excessive, are mounting higher and higher, while profits are coming downward. These problems, coupled with the increased cost of doing business, the scarcity of help, slow delivery of goods, the legislative restrictions in many states; cut-rate and chain store competition—are not a very hopeful augury for the immediate future of the pharmacist.

However, amid all the confusion and chaos of business conditions in recent years, as pharmacists, we have been signally favored through the timely operations of the Pure Food and Drug Act. The wisdom of having an efficient Federal Food and Drugs Act in successful operation during such a critical period of our national life has been thoroughly demonstrated time and again. Economic conditions in Europe incident to the War have practically revolutionized the drug market, demanding ever-greater vigilance on the part of those in charge at the various ports of entry. It is no exaggeration to state that no single instrument of our National Defense has been fraught with such incalculable benefit to the pharmacists nor afforded so large a measure of protection to the public health as this specific bit of national legislation. The reasons are obvious. Consciously or unconsciously we have grown to be a large drug-consuming nation. One of our American drug editors commenting recently on the situation calls attention to the fact that as a nation we consume more and produce less drugs than any country on the globe. For obvious reasons the cultivation and collection of drugs for medicinal uses has never been seriously undertaken in this country. In the old world, in times of peace, it is an important industry. Economic conditions obtaining in these countries at the present time have diverted this labor largely to other and more needful occupations, causing a scarcity as well as an inferiority of many of the ordinary drugs daily supplied by the pharmacists. Conditions governing the traffic and transportation of crude drugs have likewise been seriously threatened because of the exigencies of war. As a result of these numerous and varied circumstances the offerings of spurious and adulterated drugs at the port of New York during the past year has exceeded that of the five years preceding, compelling us to pay even higher prices for our supplies, with little or no opportunity for discrimination as to quality. Nor is there any immediate prospect of relief in sight.

Ambitious newspaper propagandists, inspired by patriotic impulses, have offered many timely suggestions. They would have us develop this crude drug industry over night. Their recipe is an exceedingly simple one. They would have the Government furnish all necessary data and stimuli—all the farmer has to do is the work. Their enthusiasm is indeed commendable

* Papers and discussions thereon are printed apart from the report of the sessions of the Section.

as witness the following titles taken from recent American dailies: "Profits from Drug Weeds;" "\$100 per Acre for Medicinal Weeds;" "An \$18,000,000 Herb-Growing Industry Going to Waste;" etc. One particular article by way of illustration cites a specific instance of "How a certain plant which grows like a weed; is cured like hay; sells at 45 c. per lb., which is at the rate of \$900 per ton. Under proper conditions an acre ought to average \$1800." Now as to the facts. As pharmacists we all know that the crude drug industry offers little or no inducement for time and labor invested. That excepting under ideal methods of cultivation and propagation it is an absolute failure. In a recent article by Dr. F. B. Kilmer, he states that Belladonna grown by the firm of Johnson & Johnson costs in the first year \$100 per lb.; that Digitalis cultivation undertaken at the Lilly Gardens costs about \$1000 for the first few pounds. My attention has been called to a successful cultivation of Cannabis Indica by the Mulford Company at Glenolden, but these instances of successful plant cultivation are all unusual exceptions and afford little or no relief from the prevailing market conditions.

As suggested above, the business problems which beset the pharmacists today are both arduous and perplexing. The situation while not a wholesome one is, upon analysis, not altogether so depressing as appears on the surface. The crying need of the hour is a higher standard of business efficiency among pharmacists. "The times are changed and we are changed with them" reads the old Latin proverb and the problem which chiefly concerns us as pharmacists is to adapt ourselves to the modern economic order. Today success in any enterprise—commercial, industrial, intellectual—means concentration. The advice of Dr. Samuel Johnson to an inquiring youth as to the best means to achieve success, "To know something about everything and everything about something," is both pertinent and *apropos*. In substance, it is nothing more nor less than a paraphrase of the modern program of efficiency. And to the pharmacist who has studied and mastered the various details of his business; who has his business so organized on system—not guess-work; who keeps in touch with market conditions; who has made a study of costs and knows his exact percentage of expense—the remedy is obvious. It is a mere matter of simple calculation. The moment an item advances in the market, up goes the cost to the purchaser. It is simply the application of system to business practice. And in these days of flurrying markets and keen competition, he can ill afford to do business otherwise. He must devote more of his time to accounting, to costs, credits and collections, so that his business may be handled intelligently, systematically, efficiently—for without an intimate knowledge of these all-important factors in his possession, he is simply steering his business barque between the Scylla of chance and the Charybdis of failure.

Take, as an illustration, the unsettled condition of the drug and chemical market at the present time. It has been an exceedingly difficult problem for the pharmacist to determine a satisfactory basis upon which to figure his profit. This variation in price has advanced in many instances to ten times that of normal. There has likewise been a very perceptible increase in the cost of bottles, corks, paper, boxes, labels, in short, every item that is involved in the operation of compounding has suffered an advance. And while the pharmacist may be enabled to make an increased charge for his product, nevertheless, such increase in price in no wise corresponds to the increase in cost to him for his materials. The situation is both unusual and unfortunate. It is one of the peculiar hardships to which pharmacists are subjected at the present time under a turbulent market and requires constant vigilance and the keenest business acumen if he is to protect his own best interests. In times like these it behooves the pharmacist to exercise extreme caution and buy only in limited quantities for his immediate needs, lest he be caught in the maelstrom of declining prices once the crisis has been reached.

That the average pharmacist is lacking in business essentials and pays little or no attention to the scientific management of his business, is proverbially true. In proof of this statement permit me to call your attention to an analysis of business conditions as reported recently by the Associated Advertising Clubs of America. A committee of 1700 made a nation-wide canvass in the month of November 1916, investigating six different lines of business—drugs, jewelry, hardware, grocery, clothing and department stores. Their report shows an average increase in all lines (as against the same month in 1915) of 20 percent with net profits of 7.8 percent. As for the sales in retail drug stores, they increased 16.9 percent, while the profits increased but 5.5 percent. Department store sales during the same period showed an increase of 19.2 percent with a net increase of 12.3 percent. The logic implied in this analysis is simply this: that the phar-

macists as a class are lacking in the fundamentals of business knowledge and that the department stores as a class are better business men by 224 percent.

This failure on the part of the pharmacist to develop more eagerly the business side of his calling, with its opportunity for increased revenue, has been a serious handicap to his material progress. And despite the growing inroads of commercialism it is surprising to find that we still have in our rank and file a goodly number of able and well-meaning pharmacists who maintain that professional pharmacy, *per se*, ought to succeed; that the introduction of specialties and sidelines is debasing and unethical in practice and is a reflection on the fair name of our profession. This fancied scorn of the commercial factor in pharmacy, to my mind, is wrong in principle and a grievous error. It implies that the business of pharmacy is mercenary, degrading and disreputable. As though the profession of pharmacy and the business of pharmacy were antagonistic in practice and principle. Nothing could be more fallacious—no argument less absurd. The very fundamental principle of our modern economic life demands that all business—professional, commercial, industrial—whatever its sphere, be built upon a basis of honest practice and the strictest ethics.

Nor must we forget that the commercial factor dominates every activity in our American life. It is the presiding genius of our industrial system. It is the keynote of our progress and greatness as a nation. It is not inconsistent with, but a rather necessary part of every highly specialized profession, law, religion, medicine, as well as pharmacy. This is the gist of the problem—that all business, whatever its nature, honestly conducted is ethical and honorable. And just as soon as we come to realize that the business of pharmacy and the profession of pharmacy and the trade of pharmacy all have a common interest and purpose; that all can go along together hand in hand with noble principles and high ideals, just so soon shall we be on the high road to progress and establish our position and prestige as pharmacists in the community in which we live and serve.

There is yet another factor in connection with this business phase of our calling which deserves our earnest consideration at this time. Heretofore we have placed altogether too great an emphasis on the professional side of pharmacy, oftentimes at the expense of our more vital interests. As a result we are being confronted in America today by a peculiar anomaly. Educational requirements for those desiring to take up the study of pharmacy are gradually becoming more rigid. Conditions are making it increasingly more difficult for men and women to attain professional rank, and this, in spite of the fact that professional pharmacy is daily growing less remunerative. Statistics show that we have fewer pharmacy colleges today than we had a decade ago, but with higher entrance requirements; that college graduation as a prerequisite to registration is already compulsory in eight states and is being seriously considered in many others. Quite naturally we are expected to follow the vocation for which we have peculiarly fitted ourselves through special training and equipment, and hence we have the unfortunate spectacle of a group of men, of professional rank, educated and specially trained for professional services to the community, but compelled by the exigencies of the situation to become tradesmen in order to earn a livelihood.

Passing strange that our colleges of pharmacy had not taken due cognizance of this condition long ago. It is neither novel nor extraordinary but has existed in our midst for years. A careful survey of conditions obtaining in our country today reveals the fact that competition is keener, that business is less remunerative and that pharmacy as a distinct and separate profession is slowly retrograding. And if it be true that the business of pharmacy of a decade ago was 50 percent professional—as one authority has stated—it is equally true that at the present time this ratio has grown to 75 percent and in the more populous localities perhaps even more so. It is likewise a fact that a pharmacy conducted along exclusively professional lines is a *rara avis* in America today. So far as the writer's observation goes there are less than a score of such in successful operation. Given the proper location, equipment, etc., we will grant for argument's sake there would be opportunity for as many more. But what an infinitesimal number when we consider that we have in the United States today well nigh unto 50,000 pharmacists with no immediate prospects of advancing their social or material welfare.

Were it possible to draw a sharp dividing line between the business of pharmacy and the profession; or if the pharmacist were legally protected as to his inherent rights and privileges (as has been frequently agitated and as is being done in many European countries)—it would

go a long way toward elevating the status and morale of our calling. But until some such specific legislative protection is afforded us—some process of elimination whereby we may separate the wheat from the chaff—we must continue to grapple with conditions as we find them, looking forward to the day when the justice of our cry will be heard and pharmacy and pharmacists come into their rightful heritage.

Thus far our colleges of pharmacy have manifested an attitude of indifference toward the present economic trend of affairs and the courses offered in Commercial Pharmacy and business training are but an insignificant part of the work required for the degree. Our large universities, however, have long ago caught the proper spirit and instead of devoting so much time to a study of the classics, are now giving way to elaborate courses in scientific industrial and economic subjects. Take the case of Harvard and Yale, two of our oldest American colleges, which were founded primarily as religious institutions, the number of students taking the religious courses today is less than 4 percent. And if these conservative institutions can commit themselves to such radical changes in their curricula it seems to me the suggestion ought to have consideration in our pharmaceutical schools and I would, therefore, advise that this Section on Commercial Interests, seeking ever the professional and material welfare of the pharmacist, recommend that our colleges of pharmacy place greater emphasis on this phase of our calling and that courses in Commercial Pharmacy and Business Training be undertaken at the earliest possible moment to the end that our successors may be more adequately fitted to cope with existing conditions in pharmacy and be accorded a higher measure of esteem, as pharmacists, from the public whom we serve.

SECRETARY FISCHER: You have heard the address of our Chairman; it contains one recommendation; what action will you take?

F. W. NITARDY: I move that this address be referred to a committee of three appointed by the Acting Chairman.

Motion seconded.

WILLIAM C. ANDERSON: While I have no special objection to this usual form of referring such an address, it appears to me that a recommendation so particularly in line with the needs of pharmacy today should be given the special distinction of being adopted by the floor without being referred to a committee. I do not see how a member of this Section or of the American Pharmaceutical Association could possibly raise any objection to that recommendation. I have listened with unusual interest to this address of the Chairman, and I believe he has struck the vital key in the situation of pharmacy today. Higher education and higher standards we want to work for but in working for these things there is apt to be a tendency to forget the man behind the counter who has to make a living. Consequently, I would like to move that this address not only be received but that the recommendation be adopted at this time. I offer this as a substitute motion.

Motion of Dr. Anderson seconded and carried.

HARRY B. MASON: I would like to say a word about what seems to be the essential features of this address. The Chair declares, what we all know to be the truth, that pharmacy has undergone a revolution in the last ten, twenty or thirty years, that it is today far more of a business than a profession, and the colleges of pharmacy should reflect in their curricula what is going on in the evolutionary changes of the business itself. In other words, the teachers ought to keep pace with the facts. Chairman Utech also showed that in the universities the teachers have taught to keep pace with the facts, they have developed courses in accounting and business administration and economics to take the place of so much Greek and Latin of the old days. It is unfortunate that in pharmacy, Mr. Chairman, that situation has not developed, that in the colleges of pharmacy they have not kept pace with the facts. I have declared my opinion on a number of occasions, and I want to express it again, that the colleges of pharmacy in this country will not be doing their duty to the pharmacists of the country until they pay more

attention than in the past to the commercial side of the business, and until something like forty or fifty percent of the pharmaceutical curriculum is made up of commercial work.

(The Secretary read a telegram of greeting from the American Fair Trade League.)

F. W. Nitardy moved that the Section on Commercial Interests endorse the Stephens Bill. After some discussion the motion was adopted.

Then followed an illustrated lecture by Prof. Henry Kraemer on "Commercial Possibilities in Professional Pharmacy." (The address and discussion will be printed in a later issue of the JOURNAL.)

The next number of the program was a paper by J. C. Peacock. (The paper with discussion thereon will be found in this issue.)

On account of the absence of the authors, the following papers were read by title and referred to Publication Committee: "The Preceptor—An Asset or a Liability," by F. M. Apple; "A Novel Method of Handling Ice Cream," by E. H. Grommet.

CHAIRMAN UTECH: I will entertain nominations for officers of the Section.

Robert P. Fischelis, of Philadelphia, was nominated for chairman and F. W. Nitardy for secretary. It was moved that further nominations and nomination of an associate be referred to a later session.

Motion seconded and carried.

The Section then, on motion, adjourned to meet Thursday morning, August 30, at 9.30 o'clock.

The second session of the Section on Commercial Interests of the American Pharmaceutical Association was called to order by Chairman P. Henry Utech, at 9.30 A.M., August 30.

(The minutes of the previous meeting were read, and on motion approved.)

The first paper on the program was by Clyde L. Eddy on "Net Profits and the Average Sale." It was printed in the September number of the JOURNAL, page 815. Prolonged discussion of the paper followed, participated in by Messrs. Jacob Diner, Orel Jones, F. W. Nitardy and others. Jacob Diner analyzed the paper relative to the calculation of the profits, spoke of various leaks in the business, quality of salesmanship, and the value of a show-window.

Orel Jones followed somewhat the same lines and stressed the need of selling the larger packages of preparations. He also pointed out that loss was frequently incurred in giving over-measure, citing as example, that in dishing out ice cream such loss was frequently incurred.

F. W. Nitardy spoke of investigations by the Colorado State Association into the cost of doing business in Colorado. This varied from 31 to 35 percent in reports from 44 stores. In studying further details, it was found that rent constituted 6 percent, advertising 0.37 percent, insurance 0.39 percent, light and heat 2.17 percent, interest on investment 2.64 percent, depreciation 4.3 percent, and incidental 2 percent.

The next papers on the program were as follows: "More Profits within Your Reach," by W. W. Figgis; "Conserving Life by Eliminating Waste," by Robert P. Fischelis; "The Commercial Aspect of Vaccine Therapy," by A. M. Rovin; "Drug Store Dynamics," by H. S. Noel.

THE CHAIRMAN: It will be necessary now to proceed with the election of officers. The Chair will be very glad to entertain nominations for officers.

C. L. Eddy, of New York, S. K. Sass, of Chicago, and H. S. Noel, of Indianapolis, were nominated.

It will be necessary to now declare the present session adjourned, and then immediately organize the second session. That is done to meet a certain provision of the by-laws. Motion seconded and carried.

THE CHAIRMAN: The Extra Session of the Section on Commercial Interests will come to order. The Secretary will read the minutes of the previous meeting. On motion the minutes were approved.

THE CHAIRMAN: The next in order is the election of officers.

The following were elected: R. P. Fischelis as Chairman; F. W. Nitardy as Secretary, and as Associates, Messrs. C. L. Eddy, S. K. Sass and H. S. Noel.

CHAIRMAN-ELECT FISHELIS: I am very glad for the honor that has been conferred upon me, and in thinking over something which we might do during the coming year, I was struck by the fact that possibly there is a subject on which we could get some information, and which we could investigate in time for our next meeting, namely, the teaching of commercial pharmacy in the colleges.

We must have ideas of practical pharmacists on that subject. Teachers of commercial pharmacy are men who are teaching pharmacy and not usually engaged in the drug business. Of course, they visit the pharmacies, in order to keep in touch with affairs, but if we have suggestions from our practical pharmacists, I think we can make our courses at colleges much better and dovetail in the store and school in such a manner that it would be of much value to us.

On motion the Section adjourned *sine die*.



H. V. ARMY
Reporter on Progress of Pharmacy



OTTO RAUBENHEIMER
Chairman Committee on A Ph. A Recipe Book

CAPITALIZE YOUR RESPONSIBILITY.*

BY JOSIAH C. PEACOCK.

The author defines the responsibility involved in pharmaceutical service, and rightly contends that pharmacists are entitled to secure the means of protection from the products sold and dispensed by them. Most physicians and surgeons carry indemnity insurance; a proportionate part of their charges for service is for this purpose, or like most pharmacists at the present, they take the risk, profit if they are fortunate, sustain a loss, if otherwise. Even general transactions and certainly dispensing demand such protection; sales of narcotics and of other poisons contribute additional responsibility. There can be no profession of pharmacy unless pharmacists practice it; the public should be educated in such recognition of pharmacy.—EDITOR.

The American Pharmaceutical Association has the betterment of pharmacy and pharmacists at heart; it also recognizes that progress in pharmacy largely depends on commerce, and that its object without finances would not get far on its way; therefore, it encourages the members by the institution of a section on commercial interests, the aim of which is the production of that net profit so essential to persistent effort.

In these days of advancing prices, perhaps more than ever before, the pharmacist must concern himself with actual net profit, and no avenue of remuneration, rightly his, should be closed against the returns which it may be made to yield. Again and again he is being reminded to add to his former selling price a little more than the advance which he pays in order that he may continue to realize the same percentage of gross profit from the sale of the goods.

While the cost of that comprehensive item known as service is being carefully analyzed to find those features which consumed what had been intended, by prior calculation, to be net profit; so, when scrutinizing the make-up of service, it is suggested that pharmacists recognize the responsibility that peculiarly applies to them as part of the service which they render; and also to note whether this responsibility is neglected as a source of revenue or is turned to good account by being given a value, capitalized as it were, to help offset the expense that is incidental to its existence and to secure to the pharmacist a better reward for his exacting duties. As said, the responsibility of the pharmacist is of peculiar form, if for no other reason than that it is a by-product of his work; consequently, the more work, the more responsibility. Responsibility is a condition of several phases; one phase of it is its part of or its presence in the mentality of the compounding; thus it is proportionately entitled to recognition, if the manipulation itself is worthy of notice; it is, therefore, not only service, but profound service; as service, it should be figured as expense; and as expense, it should be considered in the fixed charges and provided for accordingly.

While easily impressed with the necessity of placing the proper value upon materials and time which go into a product, the pharmacist does not discern what might be termed his paternalism of that product unless he appreciates the re-

* Read before the Section on Commercial Interests, A. Ph. A., Indianapolis meeting, 1917

sponsibility which accompanies it, not through his desire but involuntarily, as an inherent attribute of the product.

Now it may be that responsibility has usually had no value placed upon it because it is not material, or because it is less manifest than the expenditure of labor; but though incorporeal, responsibility, far from being a mere fancy of the mind, is an idea of real significance to the pharmacist, for through its subtlety it pervades his every act, indeed his very being; it envelops him as does an atmosphere; he cannot escape it, even though he might wish to do so; it goes with the medicine to the patient and remains in the otherwise empty container; at the same time it is in the file with the prescription and always with the pharmacist wherever he may be; when present anywhere it is always there *in toto*. What could be more weird?

Of course, the condition of responsibility is one that attaches alike to all human beings and, even in this general conception of responsibility, we find it portraying the paradox that it attends us as much in doing right as in doing wrong, for, after all, the necessity for one's defense is ever threatening. Indeed, this anomalous trait is the paramount characteristic of the pharmacist's responsibility, and can well be illustrated by saying that it is not necessarily what he puts into a medicine nor what he omits from it that may demand accountability from him; it proceeds from the fact, and from it alone, that he dispensed that certain medicine. Thus it will be seen that the responsibility of dispensing rests absolutely upon the pharmacist, nor can it be evaded at will. This does not apply only to prescriptions, nor is it confined to the handling of poisons, for the pharmacist's responsibility is linked to everything which he dispenses, unless packaged proprietaries be excepted. His responsibility may be considered under two major divisions, namely, moral and civil, and both forms invariably find their way to him, not only from his own acts, but also from the performance of service by those in his employ, thus greatly augmenting the responsibility arising from his own acts.

A volume could be written upon the subject of his responsibility so far-reaching is its application; we are not now attempting, however, to even catalog the possibilities of it; the thought in this paper is to suggest a businesslike consideration of responsibility as a part of service and the development of an effort on the part of pharmacists to not only appreciate what responsibility is, but also to obtain some measure of relief from this burden.

A few of the main thoughts may be listed as follows:

1. That the responsibility of the pharmacist is part of the service which he renders, in truth, the most profound part.
2. That responsibility seems to have been generally neglected as a source of revenue.
3. That it is thereby shown to have been underestimated by many.
4. That its possibilities should be understood and accordingly appreciated by all pharmacists, that it may rise in their own esteem to that plane where it belongs.
5. That it should be capitalized at a value which prohibits it from being given away, while the twine around the bundle is charged to the expense account.
6. That each pharmacist must do this for himself.
7. That now is the golden opportunity to correct this waste.

8. That suggestions and experiences be given toward the solution of this problem for the common good.

Other discourses have probably been written upon this subject, and no doubt many pharmacists have reflected on the ways and means of counterbalancing this liability with the hope of finally converting it into an asset. But discourses and reflections without action neither remove nor mitigate the condition. There is one remedy at least which is so simple it needs no explanation, nor can we imagine that it lacks justification, and was ever a time so opportune as the immediate present in which to correct this alleged lethargy? Each pharmacist can apply this remedy but only to his own case. Let us then as individuals take in a few plain truths for thought along these lines.

To be sure, pharmacists know they have responsibility, and be it said to their credit that they have lived up to it as men good and true; but most of them will admit that they have not concerned themselves about it as a serious affair of business; instead, they have allowed the satisfaction that comes with the conviction of work well done to be their only reward for this part of their responsibility. This only serves as a mental compromise, for such an attitude obtains at least in part, if not entirely, because the service of responsibility is instinctively appraised as being worth something, but he allows custom or his lack of comprehension to deprive him of his pay. This disposition fails to benefit him financially, and does not tend to elevate his service in the esteem of the public. And, for like reasons the pharmacist must be impressed with his own lack of applied appreciation of the responsibility which he assumes. He must be made to realize the potential dangers with which it is fraught; not in a manner to perturb the mind, but in such way as to awaken in him a proper understanding of the circumstances under which he serves, for only then will he feel entitled to remuneration for his obligation. It is not a sentimental value that we seek to put on responsibility but a money value born of necessity for the financial encouragement of pharmacists, an actual need in their business, both for present maintenance and future vision.

No business which constantly involves risk is considered to be properly financed if it is not sufficiently protected against every risk as it presents itself; nor can the same money be used to buy this insurance over and over; it must be paid outright each time and is retained by him who obligates himself to bear the outcome. This condition is an accepted practice in many businesses. Why not in pharmacy? Is it not within the rights of the pharmacist, when planning the means to net profit, to set his price so as to cover himself against the wear and tear of responsibility and the risks which may bring it to an issue? It requires no wild flight of the imagination to conceive of cases wherein his responsibility may be put to test, with results more disastrous than a conflagration. The serenity of the past is no guarantee of an undisturbed future. Indeed the wonder is that the pharmacist has to defend himself so seldom. But this condition argues no more against the advisability of offsetting his responsibility by himself for himself than does the fact that he never burned out imply that he needs no fire insurance. On the contrary, it evidences his care, and by showing care, it pleads stronger the claim that responsibility is service.

The pharmacist's moral responsibility comes from his performance of the trust imposed by his clientele; and for the violation of any part of this, there can be no

more dread penalty than the accountability of the pharmacist to his own moral sense. The endeavor to live up to this trust is no small strain upon the health of the average pharmacist, for as a rule it enforces that unending attention to the details of the work which keeps the pharmacist so continuously occupied and so closely confined. Hence, it is only right that he realize from his moral responsibility alone a yearly sum sufficient to permit of health and accident insurance in some form, if indeed not some such form of pension as an endowment life insurance. He unquestionably deserves it; he needs it to put him on a par with other workmen. Again, public safety demands healthy, clear-headed dispensers, and this presents another reason why pharmacists who are closely confined should endeavor to make themselves financially able to live comfortably under such environs as help to counteract the ill effects of close confinement, long hours and unceasing care. To those who have made these trying selections for themselves, let it be plain that such is their own choice, and that they themselves must find the relief therefrom.

Here may arise the thought that everyone has a certain moral responsibility in his work, which is true, and every one who faithfully discharges his trust is equally entitled to such compensation and protection as we ask for, and is just as strongly advised to provide it for himself.

The civil responsibility of the pharmacist is his answerability at law to any charge that may be brought against him. It may be a case justly instituted, or it may be through the inadvertence, capriciousness or malevolence of another; but, with or without grounds, it is incumbent upon him to set up such defense as he desires.

There are phases of responsibility which come from risks that must be taken in the practice of pharmacy, and against all such possibilities of loss the pharmacist should insure himself as do others. Many pharmacists protect themselves against such contingencies by the well-known indemnity insurance which is the only relief offered by an outsider. This does not safeguard him against all expenses which may be incidental to a charge, such as loss of time, for instance. It does not, however, exclude his privilege of placing his own insurance with himself. Indemnity insurance has to be paid for, consequently enough must be realized from responsibility to defray this expense chargeable only to it, otherwise responsibility improperly becomes a burden to some other expense account.

It must be conceded that the average lay mind logically presumes that the pharmacist charges enough to cover every possible outlay of expense on his part and in addition something as a net profit. This is exactly as it should be; if otherwise, the fault is with the pharmacist, not with the patron who favored him with the opportunity to take his proper profit. Unfortunately, this opportunity is too frequently neglected, and such service features as time and skill are sold for less than value, while responsibility is thrown in for good measure by one whose pride is in his product rather than in his profit. Such a procedure is entirely unnecessary, even if explained to the purchaser, because the latter has no other assurance of this having been done, and consequently does not appreciate it; instead, he believes he has paid for all he received and perhaps more.

When we sell our goods and service at a stated price we are operating under the influence of this truism—"we ask for what we get"—which six words please mark for future reference.

Too many pharmacists, by allowing the customs of the past to fix their prices, are depriving themselves and their help of the benefit of just profit, while many others, through fear of competition, allow themselves to serve as pharmacists for little or no profit. When reflecting upon the net returns for the service which they have rendered, it must be evident to many pharmacists that but little, if any, value was really placed upon their responsibility. Where this is true, it is because of custom, not of thought. But thought must be aroused in the pharmacist who, by compounding the prescription, makes himself a responsible party, and following further in the footsteps of custom files the prescription, thus appointing himself its custodian, and nonchalantly monopolizing the responsibility of it, shall we say, without pay?

It is useless to enumerate the many accommodations of the average shop for which the pharmacist is so well known, though only to himself as a philanthropist, but it is imperative to have his own appreciation of his pharmaceutical service on the plane of that service lest he lower the value of the latter which, by virtue of increasing experience, should enhance and not decline.

As previously remarked, it is not prescriptions alone that involve responsibility, although we direct many of our sentences to them; for the general practice of dispensing must also concern the pharmacist quite as much. Let us compare the vocation of pharmacy to that of another by asking the question "Is there another calling that would deliver to the public any such hazard as is a poison—(1) the article itself; (2) its container, etc.; (3) the time required; (4) registration as a poison, and (5) responsibility—five specific matters of concern—and all for an amount as low as ten cents?" We ask ourselves the question "Can this really be?" But let us drop this comparison, lest it partake of the spirit of reproach. It is, however, to be remembered in all such transactions, that responsibility is part of the service, therefore, gauge your quantities of materials accordingly. Therein lies an opportunity to turn responsibility into money; there is no other course to pursue in safety; and let it not be overlooked that competition in poisons is not very keen.

Of the several formulas which have been proposed for the pricing of prescriptions, none appear to emphasize the item of responsibility, and difficult indeed would it be to formulate a plan by which to fix such a charge. This may seem to be a matter which should be left to individual decision; however, what does appear to be a practical suggestion is to sufficiently increase the compounding charge now employed to cover the extra fee desired.

This suggestion will be illustrated by giving the writer's experience in doing this very thing. Some years ago the thought occurred that the responsibility of placing on file and storing prescriptions was in itself worth something on each prescription, also that to be held accountable not only for the contents of a prescription but also for the outcome of it was deserving of still a little more on each one. And, as the matter was given further thought, it became very convincing that if any value or fee worth considering at all was made for the sum of such responsibilities there would remain after paying for materials and labor, but little, if any, of the prices then asked. So in order to assure ourselves of a fee for our responsibility, we adopted the plan of adding ten cents to the prices of all prescriptions for what was dubbed in our store "making a prescription of it," in other words, taking the

responsibility of dispensing it and keeping it. We felt that this was but part of our responsibility; but as it was a form that showed enough material aspect to permit we decided to capitalize it so as to offset any deficit that might arise from a more serious phase.

This is an arbitrary fee because it was not founded on an accurate estimation of the actual cost, but was based on the assumption that if it was worth anything it was worth ten cents. This plan has been pursued for several years with no decrease in number or value of prescriptions, but instead an increase in both respects. Let us see what this means when reduced to figures. For example: If in one year 10,000 prescriptions are compounded, and for each of these an arbitrary fee of ten cents is charged the result will be one thousand dollars for one year, which divided by three hundred and sixty five shows a daily average receipt of two dollars and seventy-four cents. Would any pharmacist appraise his daily responsibility at a lower figure?

When the Narcotic Law went into effect on March 1, 1915, we found ourselves confronted by another source of responsibility, one against which indemnity insurance does not operate, and one that introduced some new aspects of responsibility in the form of compulsory records, order blanks and special inventory. This was viewed as a new responsibility added to one already in effect, so to all of these prescriptions and orders we attached an additional registration fee of ten cents. When you consider the detail of registering and keeping of these records for two years for ten cents or five cents each a year you will appreciate that it is little enough. But that the fee does help to reimburse you to some extent is shown by assuming that if in one year 1000 narcotic prescriptions are registered at ten cents each, you obtain one hundred dollars to help repay you for some responsibility which might take a very concrete form, due entirely to an oversight on the part of a tired mind and a fatigued body. Now add the one thousand and the one hundred dollars and divide by three hundred and sixty-five to find that you have a little over three dollars a day for the burden of responsibility that comes from your own and your help's doings. The cost of all your outside protection along these lines must come out of the three dollars; it is comparatively small and leaves none too much for the insurance of yourself and your business against responsibility by yourself. It is, therefore, urged that the pharmacist give commensurate thought, care and skill to all work with which he is entrusted; that he ask enough to enable him to do it right, and that in setting the price he be not oblivious to the fact that he is assuming an obligation of no little import and for an indefinite period. Each pharmacist must be a merchant with his materials and a labor union within himself when it comes to time, skill and responsibility. The setting of one's own price is a privilege denied to none.

A large part of your net profit from dispensing must needs come, not from the sale of material, which must be re-stocked, but from the turning into money of such immaterials as skill and responsibility. Therefore, crystallize your responsibility within your mind, and then capitalize it both for your business protection and as a pensionary measure. Put responsibility on the expense account and see that it is met by a sufficient fee. Economics demand it for you but only your individual efforts can secure it. If you have no better plan adopt something like the one outlined; if you have a better one, tell it, that all may profit

by it. The nearer you can bring your charges to a basis which is equitable to you for the entire service you render, the better it is for both you and for him who is getting less than you are, for the psychology of advancing prices shows beyond doubt that the rule of price changes works both ways—cuts beget cuts, advances beget advances. And now the six marked words of a previous paragraph may be rearranged into another sentence, which in this connection is quite as unquestionable as the first; to wit: "we get what we ask for."

ABSTRACT OF DISCUSSION.

OREL JONES: Sometime ago I was talking to a banker about responsibility of persons, and he said, "The banking business is such a responsible business. You are liable to take a bad check or get into some bad deal and lose quite a lot of money." And I said, "That is nothing compared to the drug business." He did not know about that, but I went on to say that there is not a five- or a ten-cent sale made from behind the prescription counter without the life of a person being concerned. I then narrated several incidents of "near" mistakes. Let us charge adequate prices and capitalize our responsibilities.

HENRY KRAEMER: This is one of the most important papers I have ever heard. The future of the American Pharmaceutical Association depends upon the work of this Section. I wish very much that it would be possible to have an annual report of the commercial progress of pharmacy by the secretary of the Section of Education and Legislation. I would like to see this address of Mr. Peacock distributed everywhere, so that we may see what is being done and get a just valuation of the work of the pharmacist. I do not see how there can be a profession of pharmacy unless there is a due valuation placed upon the work of pharmacists. I do not see how you can go to your physician and pay out four or five dollars for professional services without realizing the importance of selling and dispensing the drugs. There ought to be some way of summarizing matters and educating the public to a higher view of the druggist, and the progress that has been made in the different sections of the country, so that they may come to a better understanding of our art or our profession.

J. E. JUSTICE: I want to say a word in regard to the fee charged for registration, or the fee charged for responsibility, and relate one incident. A druggist in one of the larger cities of the South some years ago started in with two thousand dollars when he took an old store that was run down; the owners were getting very small prices for prescriptions. He thought he must advance the price of prescriptions, but was fearful that it would run people away from his store. That was ten years ago, and today he is operating two stores in that city and has practically eliminated all competition. Some of his friends told him that if he raised the price of prescriptions he would drive trade away from his store; I was working with that man at the time and I was fearful myself. He simply added ten cents to every prescription and today he has the most of the prescription trade in the city.

CHAIRMAN UTECH: I think that is the mistake pharmacists uniformly make—of underestimating their own ability in charging for their services. As Mr. Peacock has clearly brought out, just think of the many small operations you go through for a ten-cent sale. Some years ago I took my clerks into conference and we went over this matter, and it occurred to me that we were not getting enough for the service we were giving, and, of course, the first thing I thought of was competition, that if we did this, we should lose some of our customers. But we did increase our prices, and found the opposite was true. It did not affect the business, in fact, if anything, it increased the business, because it is the unusual customer who will quibble about the price, and if you can establish your reputation for honesty, fair dealing and good service, it is not a question of price. If you go to a specialist, you expect to pay more than to a general practitioner.

I was employed in Philadelphia a few years ago in a section of the city where there was one of the best known consulting physicians of the country, one who attracted patients from all over Pennsylvania and neighboring states, and the singular thing was that when people brought in a prescription from this high-priced specialist, they said, "You want to be careful about this because I paid a high fee for it." The point is that the people were willing to pay more for this man's reputation, and that is the idea that druggists should develop in their practice. We

should take cognizance of these different factors; instead of being a drawback to the business, they will increase the material revenue.

S. K. SASS: I think this is a time when we should get away from the old system of charging 25 cents and 35 cents and 60 cents. We should take a lesson from the plumber, the automobile manufacturer and others. The plumber will not work for 35 cents or 75 cents; he charges a dollar an hour, and materials extra. I smashed the fender of my automobile not long since and the mechanic charged me for the material and then five dollars for labor. Five dollars for the labor of a competent man for not more than two hours' work. You put in five hours' work sometimes for a dollar and a half. It is a shame! But we can get the prices if we only ask them; there is no trouble about that.

A man came in not long ago with two prescriptions and asked what they would cost. I said, as nearly as I could figure it out, \$1.65. He said, "Oh, that is too much." I said, "That is my price, I cannot do it for any less," and started back behind the prescription counter. He said, "All right, I will call for them in half an hour." When he called for them he paid me and then said, "Doctor X told me to go to this store (and then he named another store), and when I went there they said it would be a dollar and a half." He asked for his prescription to be given back to him, when the druggist said he would fill it for a dollar and thirty-five cents; this made him suspicious, so he took the prescription away from him. I did not have any difficulty in getting the price, and I think we are justified in asking the higher prices, because we have to pay a good deal more for everything that we use in our prescriptions.

CONSERVING LIFE BY ELIMINATING WASTE.*

BY ROBERT P. FISCHELIS.

In April 1916, it was the writer's pleasure to address a joint meeting of the Philadelphia County Medical Society and the Philadelphia Branch of the American Pharmaceutical Association on the subject of "How Physicians and Pharmacists Can Coöperate in the Use of Available Drugs." It was pointed out at that time that the scarcity of many drugs made it necessary to look about for suitable products to replace those which were unobtainable. The suggestion was made that sodium salts be used to replace potassium salts wherever possible and that standardized galenicals be used in place of alkaloids for internal medication wherever this procedure was feasible. Since these suggestions were made, our own country has become actively engaged in the great world war and the problem of conserving life has become more significant to all of us than ever before.

We have a fair example of what may be expected on the part of some of those who are in control of the necessities of life when we consider the food and coal situation. Prices have increased with the constantly increasing demand for these products on the part of our allies and the situation has reached such a stage that dictators have been appointed by the Government to take full charge of the regulation of prices and supply. I cite this merely to show the ultimate outcome of either speculation or improper handling of necessary articles.

It is time to sound a warning to pharmacists, hospital authorities, physicians, dentists, veterinarians, and all others engaged in manufacturing, supplying, dispensing and using drugs and biological products, that unless efforts are made on the part of all to eliminate waste through carelessness, deterioration or misapplication, we may be confronted with a serious situation regarding supplies of many

* Read before Section on Commercial Interests, A. Ph. A., Indianapolis meeting, 1917.

drugs, chemicals and biological products most necessary for the conservation of life.

Fortunately, much has been done in the past three years to place America on an independent footing as regards the manufacture of medicinal products, but much more must be accomplished before this end will have been attained. The demand for certain drugs and biological products, particularly for the large armies which are being raised, is bound to be unprecedented. The civilian population will need the same medical attention as it is accustomed to in time of peace, and patriotism demands that our boys at the front shall not be inconvenienced the least bit for lack of medical supplies.

Unless waste is eliminated in the handling of drug products and remedies are judiciously employed, shortages are bound to occur. Foreign governments have commandeered drugs in their countries from time to time when acute situations arose. Our country will be forced to do the same thing unless the professions demonstrate that they can handle the problem adequately themselves. Surely we do not want a dictator in pharmacy, nor do we want situations to arise which will compel the government to further regulate business.

Such steps are inevitable, however, unless concerted efforts to conserve supplies of pharmaceutical and biological products are put forth. There is an inexcusable waste of biological products each year, due mostly to careless ordering on the part of the retailer. Let us stop and consider for a moment that if every drug store in the United States were to return but one package of diphtheria antitoxin to the manufacturer because it had become out-dated and therefore useless, approximately 50,000 packages of this valuable remedial agent would be wasted—and this while lives are being lost elsewhere for want of the product. This is but one example and when we take into consideration that there are 150,000 physicians and 15,000 veterinarians in addition to the 50,000 druggists in the United States, who use hundreds of biological products, the wastage possible, because of careless ordering, at once assumes enormous and startling proportions. Yet such a waste would occur if a majority of the members of the professions did not stop to contemplate the results of such carelessness.

All of us must stop thinking merely as individuals and consider the significance of multiplication of individual wastefulness and carelessness. The slice of bread thrown away from one loaf seems a trivial thing, but a slice of bread thrown away in every home in the United States in one day would mean a waste of sufficient bread to feed starving thousands in another part of the world. A single package of any article, subject to deterioration, which becomes useless, due to overstocking, seems trivial, but when multiplied by thousands this trivial waste soon assumes formidable proportions. It makes no difference whether the pharmacist bears the loss in permitting an article to deteriorate or whether the manufacturer makes an allowance, there is nevertheless always a loss. And added to the loss of the product itself, there is the loss of accessories like rubber, metal, glass, wood, paper, dyes, other chemicals, time, labor and money used in putting it up, which in these days are very expensive and in some cases scarce commodities.

Of course, it is impossible to foretell with absolute accuracy what the demand for a certain perishable product will be, but the careful pharmacist can gauge demands pretty accurately and waste can be reduced to a minimum by careful

study of conditions. It is unnecessary, particularly at this time, to order more biological or pharmaceutical products than are needed for use in the immediate future, as supply stations of manufacturers are now so conveniently located in every section of the country that in the case of epidemics, supplies of biological products, etc., can be obtained anywhere within twenty-four hours at the very latest. It is better to take advantage of supply facilities than of the privilege of returning goods. The former is economy; the latter is waste. It is also unnecessary for pharmacists to stock the products of numerous manufacturers. It is better to investigate carefully and decide upon the most reliable manufacturer who is in a position to give satisfactory service and then handle his goods exclusively than to tie up capital in the products of three or four manufacturers. Under the latter conditions the chances are that stocks will always be incomplete, whereas in the former case a complete line can be carried at much smaller financial outlay.

Overstocking of supplies of all kinds in the drug store is exceedingly bad practice from a commercial point of view as well as from the standpoint of national necessity just now. The practice of hoarding supplies of products which are apt to become scarce is also a poor one from the point of view of the shrewd business man, aside from any moral consideration, owing to the uncertainty of market conditions and the uncertainty regarding the length of the war. It not only has the effect of inflating prices, but it may also serve as a boomerang and leave high-priced stocks on the hands of the retailer when normal conditions are restored.

The purchase in bulk of pharmaceuticals subject to deterioration is a wasteful procedure unless there are immediate prospects of disposing of them. It should always be remembered that quick turnovers bring greater profits than "free goods" lying on the shelves for long periods.

We must not overlook the fact that every pint of fluidextract and every package of bacterin or serum manufactured represents materials more and more difficult to procure, as well as time and labor, which, unless properly utilized, represent absolute waste. In times of peace, this does not loom particularly large but under the stress of war it assumes great proportions and we must see that it is not allowed to go on.

"Doing Your Bit" means more than flying the American flag over your store. It means enlisting actively in the work of *Conserving Life by Eliminating Waste*.

BACTERIOLOGY AT THE FRONT.

Bacteriological investigation in hospitals of the front line has been a novel feature of this war. Nothing of the kind has been practised in any of our previous campaigns. It has been rendered possible by equipping motor vans as mobile laboratories. They have been attached to a clearing station or a group of clearing stations, and the officer in charge is provided with a small motor car, so that he can go to any place in his area where his services may be wanted. These officers perform three functions:

1. They examine all kinds of morbid products from the hospital wards, and thus aid in the diagnosis of enteric fevers and other epidemic diseases on the medical side, and of the various forms of infection that attack surgical wounds.
2. They examine contacts in cases of infectious fever and search for carriers both among the troops and in the civil population
3. They investigate new forms of disease that appear among the troops in order to discover their causes and the means of prevention.—*British Medical Journal*, June 23, 1917.

NOMINEES FOR PRESIDENT OF AMERICAN PHARMACEUTICAL ASSOCIATION TO BE VOTED ON NOVEMBER 1917



Left to right: Julius A. Koch, Pittsburgh, Pa.; Charles H. Lawall, Philadelphia, Pa.; Leonard A. Seitzer, Detroit, Mich.

COMMITTEE REPORTS

REPORT OF THE GENERAL SECRETARY.*

TO THE PRESIDENT AND MEMBERS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION:

N. F. III.—A feature of the Secretary's business last year was the closing of the accounts of the National Formulary III. Only one item, amounting to \$6.75, remained on the ledger at the close of the year and this has since been collected. The total collections for the year on N. F. III account were \$589.14. The unsold copies—221 in various bindings—have been stored in the Lloyd Library with other property of the Association. Early in the year it was found necessary to print and bind in cloth 250 copies of the N. F. III. The sales for the year amounted to 301 copies. The expense charged against N. F. III was \$155.39.

N. F. IV.—An account with the distributing agents for the N. F. IV is kept in the Secretary's office. During the year 1916 the sales of the N. F. IV aggregated 15,759 copies with an income of \$28,108.69. During the same period the expenditures were \$12,137.14. In the first half of the year 1917, 4,324 copies of N. F. IV were sold and yielded an income of \$7,371.75. The sales of the N. F. IV in various bindings up to June 1, 1917, were: muslin 10,934, buckram 8,601, interleaved 548, total 20,083. The total receipts from these sales were \$35,480.44, and the total expenditures for the N. F. IV from January 1, 1916, to August 1, 1917, was \$14,026.37.

Year Books.—The delay in the distribution of Year Book, Vol. III (1914), owing to a fire in the printing plant, held up the payment of the bill until after the close of the fiscal year, with the result that the expense of two numbers of the Year Book will accrue to the fiscal year 1917. Volume IV (1915) has now been distributed and paid for. Complimentary copies of Volume IV were sent to the pharmaceutical journals for review, a departure from the previous custom. The remaining copies of both of these Year Books have been stored in the Lloyd Library. Detailed reports follow:

A. RECEIPTS AND EXPENDITURES ON ACCOUNT OF NATIONAL FORMULARY III

FROM JAN. 1, 1916, TO DEC. 31, 1916.

I. Receipts.

From sales and payment of bills due Jan. 1, 1916.....	\$589.14
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II. Expenditures.

Printing and binding 250 copies.....	\$80.00
Insurance on plates.....	2.75
Rebate on copies returned (29).....	34.80
Collection of accounts overdue.....	6.00
Postage and express.....	31.84

Total expenditures.....	\$155.39
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III. Remittances.

To Treasurer, as per Treasurer's receipts.....	\$589.14
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IV. Sales.

To dealers and individuals, cash and charge accounts.....	\$437.54
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Number of orders filled—82

Number of copies sold—304

V. Accounts Unpaid.

By dealers, January 1, 1916.....	\$158.35
By dealers, January 1, 1917.....	6.75

* Presented and approved in Second General Session of American Pharmaceutical Association, Indianapolis meeting, 1917.

VI. Stock on Hand.
(At Lloyd Library.)

Copies bound in cloth.....	150
Copies bound in cloth, interleaved.....	34
Copies bound in sheep.....	9
Copies bound in sheep, interleaved.....	28
Total.....	221

B. RECEIPTS AND EXPENDITURES ON ACCOUNT OF NATIONAL FORMULARY IV.

Expenditures, Jan. 1, 1916, to Dec. 31, 1916:

Envelopes for proof.....	\$ 11.25
Lippincott—publication.....	11,529.98
Labels and plate.....	43.55
Honorarium, C. Lewis Diehl.....	500.00
Expenses of Committee.....	40.12
Express on complimentary copies.....	12.24

Total expenditures.....	\$12,137.14
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SUPPLEMENTARY REPORT.

Expenditures from Jan. 1, 1917, to Aug. 1, 1917:

Lippincott—publication.....	\$1,853.88
Labels.....	10.35
Use of U. S. P. Text.....	25.00

Total to Aug. 1, 1917.....	\$1,889.23
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C. NATIONAL FORMULARY IV.

Summary of Quarterly Reports of Sales 1916.
(Midland Publishing Co.)

Sept. 1, 1916:

Bindings.	Number sold.	Price per copy.	Amount.
Muslin.....	4,150	\$1.60 ¹ / ₂	\$ 6,660.75
Buckram.....	3,504	1.93 ¹ / ₂	6,780.24
Buckram interleaved.....	292	2.87 ¹ / ₂	839.50
Totals.....	7,946		\$14,280.49
Less freight (allowed by contract)			73.16

Remitted to Treasurer.....	\$14,207.33
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Dec. 1, 1916:

Bindings.	Number sold.	Price per copy.	Amount.
Muslin.....	3,843	\$1.60 ¹ / ₂	\$ 6,168.015
Buckram.....	3,775	1.93 ¹ / ₂	7,304.625
Buckram interleaved.....	195	2.87 ¹ / ₂	560.625
Totals.....	7,813		\$14,033.265
Less freight.....			131.90

Remitted to Treasurer.....	\$13,901.36
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Total remitted to Treasurer during 1916.....	\$28,108.69
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SUPPLEMENTARY REPORT.

Summary of Quarterly Reports of Sales—Jan. 1 to June 1, 1917.

Mar. 1, 1917:				
Bindings.	Number.	Price per copy.	Amount.	
Muslin.....	1,777	\$1.605	\$2,852.085	
Buckram.....	863	1.935	1,669.905	
Buckram interleaved.....	39	2.875	112.125	
	<hr/>		<hr/>	
Totals.....	2,679		\$4,634.115	
Credit—Exchange on Philadelphia C. P.....		\$16.50		
Freight.....		12.43	28.93	
		<hr/>	<hr/>	
Remitted to Treasurer.....				\$4,605.18
June 1, 1917:				
Bindings.	Number.	Price per copy.	Amount.	
Muslin.....	1,164	\$1.605	\$1,868.22	
Buckram.....	459	1.935	888.16	
Buckram interleaved.....	22	2.875	63.25	
	<hr/>		<hr/>	
Totals.....	1,645		\$2,819.63	
Less freight.....			53.06	
			<hr/>	
Remitted to Treasurer.....				\$ 2,766.57
Total remittances for 1917.....				\$ 7,371.75
Total remittances for 1916.....				28,108.69
				<hr/>
Total remittances from July 1, 1916 to June 1, 1917, inclusive.....				\$35,480.44

D. NATIONAL FORMULARY IV.

Summary of copies printed and bound by Lippincott:

		Cloth.	Buckram.	Intl.	Total.
Series A.....	7/25	3,000	2,000	200	5,200
	8/31	1,500	3,000	300	4,800
Series B.....	10/31	4,500	2,900	100	7,500
	11/17	1,200	1,200	100	2,500
Series C.....	2/28	1,500	....	...	1,500
	5/10	1,000	500	...	1,500
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Totals.....		12,700	9,600	700	23,000

(All were charged to Midland Publishing Company except 44 copies of Series A bound in buckram which were sent out complimentary.) (35 unbound copies distributed complimentary are not included.)

Copies Received and Sold by Midland Publishing Co.

July 1, 1916, to June 1, 1917.

Copies Sold.

Quarters ending.					
1916.		Muslin.	Buckram.	Intl.	Total.
Sept. 1.....		4,150	3,504	292	7,946
Dec. 1.....		3,843	3,775	195	7,813
1917.					
Mar 1.....		1,777	863	39	2,679
June 1.....		1,164	459	22	1,645
		<hr/>	<hr/>	<hr/>	<hr/>
Total sold.....		10,934	8,601	548	20,083

Stock at Midland Pub. Co., June 1, 1917.....	1,773	963	137	2,873
Complimentary copies distributed.....		44	...	44
Total printed and bound.....	12,707	9,608	685	23,000

E. ACCOUNT OF PROCEEDINGS AND YEAR BOOK.

I. Sales of Proceedings and Year Books:	
Receipts from Jan. 1, 1916, to Jan. 1, 1917.....	\$70.85
Remitted to Treasurer.....	70.85
II. Stock of Proceedings stored in Lloyd Library:	
In cloth binding	3,312
In paper binding.....	1,369
Unbound.....	2,617
III. Stock of Year Books stored in Lloyd Library:	
Vol. 1, 1912.....	266
Vol. 2, 1913.....	467
Vol. 3, 1914.....	459
Vol. 4, 1915.....	323

SUPPLEMENT.

Total expended for Year Books, Volumes 3 (1914) and 4 (1915), exclusive of salary of the Reporter:

Vol. III (1914).

Stoneman Press, printing, binding and distribution.....	\$2,848.61
W. T. Robinson, labels.....	3.50
Reporter Kock, expenses.....	43.53
Journals for reporter.....	16.84
General Secretary, parcel post and express.....	9.55
Total.....	\$2,922.03
Expended from 1916 budget.....	\$ 453.01
Expended from 1917 budget.....	2,469.02

Total.....	\$2,922.03
Copies printed and bound.....	3,000
Copies distributed or sold.....	2,541
Copies stored in Lloyd Library.....	459

Vol. IV (1915).

Eschenbach Printing Co., printing, binding and distribution.....	\$2,893.14
Journals for reporter.....	4.80
W. T. Robinson, labels.....	4.00
Total.....	\$2,901.94
Expended from 1917 budget.....	\$2,901.94
Copies printed.....	3,000
Copies distributed.....	2,652
Copies in Secretary's office.....	25
Copies stored in Lloyd Library	323

F. ACCOUNT OF BADGES AND BARS.

Receipts from sale of badges and bars, Jan. 1, 1916, to Jan. 1, 1917.....	\$21.45
Remitted to Treasurer.....	21.45

Expenditures for badges and bars, Jan. 1, 1916, to Jan. 1, 1917:

30 Atlantic City Bars.....	25.50
Stock on hand, Jan. 1, 1917:	
Gold badges.....	12
Gold bars.....	93

G. RECEIPTS BY MONTHS, JAN 1, 1916, TO DEC. 31, 1916.

	Badges and Bars.	Proc. and Yr. Bk.	N.F. III.	N.F. IV.	Total.
Jan.....		\$10.00	\$143.68		\$ 153.68
Feb.....		14.50	105.43		119.93
Mar.....		2.95	153.45		156.40
Apr.....			59.40		59.40
May.....		9.00	13.89		22.89
June.....			16.05		16.05
July.....			90.34		90.34
Aug. and Sept.....	\$21.45	8.00	5.55	\$ 7,500.00	7,535.00
Oct.....		10.00	1.35		11.35
Nov.....		16.40		6,707.33	6,723.73
Dec.....				13,901.36	13,901.36
Total.....	\$21.45	\$70.85	\$589.14	\$28,108.69	\$28,790.13

SUPPLEMENTARY.

Receipts.

Jan 1, 1917, to Aug. 1, 1917.

Jan.....		\$ 8.00			\$ 8.00
Feb.....	\$8.00	4.00	\$6.75		18.75
Mar.....		2.00		\$4,605.18	4,607.18
Apr.....					
May.....		3.60		2,766.57	2,770.17
June.....		7.20			7.20
July.....					
Total.....	\$8.00	\$24.80	\$6.75	\$7,371.75	\$7,411.30

Respectfully submitted,

WM. B. DAY,
General Secretary.

August 23, 1917.

REPORT OF THE COMMITTEE ON WEIGHTS AND MEASURES.*

TO THE MEMBERS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION:

Your Committee on Weights and Measures begs to point out that the movement instituted by the committee in 1914 resulted in the organization on December 27th last, of the American Metric Association, after the holding of a metric conference under the auspices of the American Association for the Advancement of Science.

Because of the death of a colleague, your Chairman was unable to attend the meeting, but he participated in the preliminary conferences at which the meeting was planned and has been in sympathetic touch with the organization since its formation.

The success of the initial meeting has been described in most of the pharmaceutical journals, so here emphasis will be laid upon the broad lines of representation that the conference typified and which was further manifested in the officers and directorate chosen at the meeting. These gentlemen were: President, G. F. Kunz, gem expert and representative of the American Institute of Mining Engineers; Vice-presidents, Wm. Jay Schieffelin, representative of the National

* Presented and approved in Second General Session of American Pharmaceutical Association, Indianapolis meeting, 1917.

Wholesale Druggists Association; Emil P. Albrecht, secretary of the Philadelphia Bourse; and Orrin E. Stanly, secretary of the Portland, Oregon, Society of Civil Engineers; Secretary, Howard Richards, Jr., electrical engineer and founder of the Metric Association of China; Treasurer, A. P. Williams, chairman of the Foreign Trade Committee of the National Wholesale Grocers Association; Executive Committee, H. V. Arny, past chairman of our committee on weights and measures and chairman of a similar committee of the American Chemical Society; F. R. Drake, chairman of the Metric Committee of the National Wholesale Grocers Association, A. E. Kennelly, representative of the American Institute of Electrical Engineers; S. S. Stratton, chief of the United States Bureau of Standards; and W. P. Wilson, secretary of the Philadelphia Commercial Museum.

Since its organization the Metric Association has made highly satisfactory progress. Among the organizations that have become members are the National Wholesale Grocers Association, the National Drug Manufacturers Association and the American Chemical Society. Among its individual members are enrolled such men as Alexander Graham Bell. In addition to the monies received for dues, the Association has received several large gifts; one from Mr. Alexander Herbert, providing for sufficient funds to conduct an educational campaign among Chambers of Commerce and similar business organizations.

The membership consists of (a) individuals, fee \$2.00 per annum; (b) firms, fee \$5.00 per annum; and (c) organizations, fees \$10.00 per annum.

It is hoped that members of the American Pharmaceutical Association will take out individual membership and it is the particular desire of your Committee that this Association which was indirectly the founder of the Metric Association will become one of its coorganization members. To this end, we beg to submit the following resolutions:

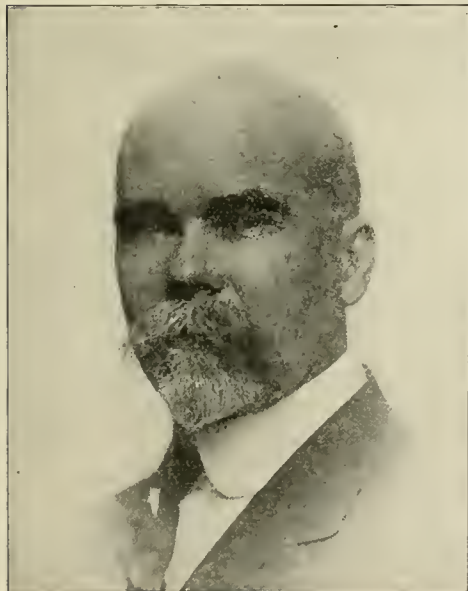
WHEREAS, the American Pharmaceutical Association was one of the leaders in the organization of the American Metric Association founded at a meeting held in New York last December, and

WHEREAS, the American Pharmaceutical Association heartily approves of the aims of the American Metric Association and of the education campaign which it has begun; be it therefore

Resolved, that this Association show its approval of the American Metric Association by taking out an organization membership in said Association: and be it further

Resolved, that the sum of ten dollars be appropriated to pay the dues for the first year.

CASWELL A. MAYO, *Chairman*.



H. M. WHELPLEY
Treasurer A. Ph. A.



J. W. ENGLAND
Secretary of the Council

COUNCIL BUSINESS

PROCEEDINGS OF THE COUNCIL, FOURTH SESSION, 1916-1917.*

The fourth session of the Council of the American Pharmaceutical Association for 1916-17 was held at the Hotel Claypool, Indianapolis, on Tuesday, August 28, 1917, at 7.30 P.M.

Chairman Lewis C. Hopp presided.

Present: Messrs. Army, Bibbins, Claus, Day, Dye, Eberle, Eldred, Engelhardt, England, Fennel, Fuller, Glover, Hartmann, Hopp, Koch, Kuever, Sayre, Snow, Stewart, Turner, Utech, Whelpley and Wulling.

The minutes of the third session of the Council for 1916-17, held at Atlantic City on September 8, 1916, were presented and approved as published.

Motion No. 36 (Election of Members; Applications Nos. 240 to 257 inclusive), in Council Letter No. 27, was reported to have received a majority of affirmative votes.

The report of the Secretary was presented and approved. It was as follows:

Members of the Council:

GENTLEMEN:

The Council held three sessions at the Atlantic City (1916) meeting and has transacted business by mail since.

Twenty-seven Council Letters have been issued covering 58 pages and 36 motions.

A synopsis of the motions of the Council is attached and will become a part of the records.

The members elected to date number 310; the number elected last year by the first sessions of the Council at Atlantic City was 422.

The membership of the Council numbers 40, of which 17 are representatives of local branches. A number of changes of the membership have taken place. William C. Alpers and M. I. Wilbert are deceased. S. L. Hilton has been succeeded by H. C. Fuller, H. P. Hynson by H. Engelhardt, George B. Kauffman by Clair A. Dye, and Thos. D. McElhenie by Jeannot Hostmann.

Charles H. Rogers resigned in December last as the representative of the West Virginia Branch, but no one has yet been chosen to succeed him.

There are 20 local branches, of which 17 at present have Council representatives; those not having are West Virginia, Montana and Cuba.

The three members of the Council elected by mail in November last for 1917-18 were Frederick J. Wulling, Minneapolis, Minn., George M. Beringer, Camden, N. J., and Thomas F. Main, New York, N. Y. (recently deceased).

Respectfully submitted,
J. W. ENGLAND, *Secretary of Council.*

SYNOPSIS OF MOTIONS OF THE COUNCIL, 1916-17.

Motion No. 1. Election of members Nos. 1 to 8 inclusive. Carried.

Motion No. 2. That the General Secretary be authorized to furnish to the Chairman of each standing committee of the Association a reasonable supply of postage and stationery to carry on the work of the committee, to be determined by consulting the chairman. Carried.

Motion No. 3. That the 1917 or Sixty-fifth Annual Meeting of the American Pharmaceutical Association be held during the week of Monday, August 27 to Saturday, September 1. Carried.

Motion No. 4. That Francis E. Bibbins, of Indianapolis, be elected as Local Secretary for 1917. Carried.

Motion No. 5. Election of members Nos. 9 to 19 inclusive. Carried.

Motion No. 6. That \$2500 be appropriated to the National Formulary IV Account with which to pay bills for the National Formulary IV. Carried.

Motion No. 7. Election of members Nos. 20 and 21. Carried.

* The first, second and third sessions of the Council for 1916-1917 were held at Atlantic City, N. J., September 7 and 8, 1916.

Motion No. 8. That, under existing circumstances, the resignation of Dr. James H. Beal as a member of the Committee on Publication be accepted with regrets. Carried.

Motion No. 9. That the resignation of H. P. Hynson as a member of the Committee on Recipe Book (term expiring 1920) be accepted, with regrets. Carried.

Motion No. 10. Election of members Nos. 22 to 30 inclusive. Carried.

Motion No. 11. That Charles H. LaWall be elected a member of the Committee on Recipe Book to succeed H. P. Hynson, term expiring in 1920. Carried.

Motion No. 12. That James H. Beal be appointed chairman of a special committee to raise funds for a proposed A. Ph. A. Home, and that Dr. Beal be authorized to select his own associates on the committee and requested to report progress from time to time. Substituted by Motion No. 16.

Motion No. 13. That Elwood Hendrick, of New York City, be recommended for appointment as a member of the Tariff Commission. Carried.

Motion No. 14. That \$5000 be appropriated to the National Formulary account with which to pay bills for the National Formulary IV. Carried.

Motion No. 15. Election of members Nos. 31 to 38 inclusive. Carried.

Motion No. 16. That Dr. James H. Beal be appointed chairman of a special committee, that he is to select, to consider the project for establishing an A. Ph. A. headquarters; to report to the Association a comprehensive plan covering the scope of the work contemplated through such an agency; a plan for its permanent management; and also a statement as to the amount of endowment fund that will be necessary to provide for sufficient income for this purpose so that the financial support of the project will be assured. Carried.

Motion No. 17. That proposed budget of appropriations for 1917 be approved. Carried.

PROPOSED BUDGET OF APPROPRIATIONS FOR 1917.

Appropriations for General Expenses:

No. 1. Salaries.....	\$6,150.00	
No. 2. Printing, Postage and Stationery.....	1,000.00	
No. 3. Clerical Expenses—Secretary's Office.....	416.00	
No. 4. Miscellaneous Expenses.....	200.00	
No. 5. Stenographers.....	350.00	
No. 6. Traveling Expenses.....	200.00	
No. 7. Committee on Membership.....	250.00	
No. 8. Committee on Unofficial Standards.....	100.00	
No. 9. Year Book.....	3,000.00	
No. 10. Premium on Treasurer's Bond.....	50.00	
No. 11. National Drug Trades Conference.....	100.00	
No. 12. Section on Scientific Papers.....	25.00	
No. 13. Section on Education and Legislation.....	25.00	
No. 14. Section on Commercial Interests.....	25.00	
No. 15. Section on Practical Pharmacy and Dispensing.....	25.00	
No. 16. Section on Historical Pharmacy.....	25.00	
No. 17. Women's Section.....	25.00	
No. 18. National Syllabus Committee.....	25.00	
No. 19. Committee on Recipe Book.....	50.00	
		<hr/>
		\$12,041.00

Appropriations for Open Accounts:

No. 20. JOURNAL.....	\$6,250.00	
(a) Publication.....	\$5,000.00	
(b) Clerical Expenses.....	800.00	
(c) Postage and Stationery.....	300.00	
(d) Freight, Drayage and Miscellaneous.....	150.00	
No. 21. National Formulary.....	1,000.00	
No. 22. Badges and Bars.....	50.00	
No. 23. Certificates.....	50.00	
		<hr/>
		7,350.00
		<hr/>
		\$19,391.00

Motion No. 18. Election of members Nos. 39 to 50 inclusive. Carried.

Motion No. 19. That the Chairman of the Council appoint a committee to prepare resolutions to be sent to the widow of the late Martin I. Wilbert, expressing the sympathies of the members of the Council to her, in her bereavement, and their appreciation of the valuable services Mr. Wilbert has rendered to American Pharmacy and the American Pharmaceutical Association. Carried. The committee named was S. L. Hilton, Dr. F. E. Stewart and H. V. Army.

Motion No. 20. Election of members Nos. 51 to 67 inclusive. Carried.

Motion No. 21. Election of members Nos. 68 to 75 inclusive. Carried.

Motion No. 22. Election of members Nos. 76 to 102 inclusive. Carried.

Motion No. 23. That an additional \$100 be appropriated for the National Drug Trade Conference. Carried.

Motion No. 24. Election of members Nos. 103 to 123 inclusive. Carried.

Motion No. 25. That the program for 1917 Annual Meeting as revised be approved. Carried.

Motion No. 26. That \$2000 be appropriated to the National Formulary IV account with which to pay bills for the National Formulary IV. Carried.

Motion No. 27. That Walter H. Cousins of Dallas, Texas, be elected to fill the vacancy of membership on the Commission of Proprietary Medicines caused by the death of the late Martin I. Wilbert. Carried.

Motion No. 28. That fifteen dollars be appropriated to the Committee on Patents and Trade Marks for expenses of committee. Carried.

Motion No. 29. Election of members Nos. 124 to 148 inclusive. Carried.

Motion No. 30. That an additional appropriation of \$100.00 be made for National Drug Trade Conference. Carried.

Motion No. 31. Election of members Nos. 149 to 172 inclusive. Carried.

Motion No. 32. Election of members Nos. 173 to 227 inclusive. Carried.

Motion No. 33. That Samuel C. Henry, of Philadelphia, be elected to fill the vacancy in the Commission on Proprietary Medicines caused by the death of the late Thomas F. Main. Carried.

Motion. No. 34. That Caswell A. Mayo, of New York, be elected to fill the vacancy in the Committee on Transportation, as a member and chairman, caused by the death of the late Thomas F. Main. Carried.

Motion No. 35. Election of members Nos. 228 to 239 inclusive. Carried.

The report of the Committee on Publication was read and, on motion of F. E. Stewart, seconded by Otto F. Claus, was approved. It was as follows:

To the Members of the Council:

GENTLEMEN:

The Committee on Publication submits the following report:

Reading Pages of the Journal.—The reading pages of the JOURNAL for 1916 numbered 1422, an average of 119 pages per month. In 1915 it was decided to reduce the number of reading pages to not more than 128 per month. Last year the printing costs rose so greatly that we were compelled to reduce the reading pages of 1917. For the first six months, these numbered, practically, 600 pages (\$92), or 1200 per year, or 100 per month. This reduction, however, was more apparent than real, as it was accomplished by having authors condense their papers, with resultant advantage, both to the papers and the Association.

Expenditures for the Journal.—In our report of last year it was estimated that, from the expenditures of the first seven months of 1916, the expenditures for the year of 1916 for publication, etc., would be about \$5600, which, with the editor's salary (\$3500), would equal \$9100. As a matter of fact, the actual cost of the 1916 JOURNAL (including the editor's salary) was \$9123.07 (\$5623.07 + \$3500).

It was estimated, also, that the costs of getting out the JOURNAL in 1917 would be \$1500 more than in 1916, by reason of the enormously advanced costs of printing, etc. But we succeeded in placing a very advantageous contract for the printing and the increased costs were much less than anticipated. The expenditures for the first six months of 1917 (excluding the editor's salary) were only \$3196.34, or at the rate of about \$6400 for the year.

Receipts of the Journal.—The receipts of the JOURNAL in 1916 from advertisements, etc., were \$5478.21.

In 1915 the receipts from advertisements, etc., were \$3620.33.

During the first six months of 1917 there have been received from advertisements, etc., \$3163.74. The indications, based on this record, are that the receipts for 1917 will be fully \$6000, an increase of about \$500 over 1916, and about \$2400 over 1915.

Net Cost of the Journal.—In 1916 the total expenditures for the JOURNAL (including salaries) were \$9123.07, and the total receipts were \$5478.21, making a net cost of \$3644.86 for the year.

If the receipts of the JOURNAL for the twelve months of 1917 total \$6000 as we can reasonably hope, and the cost of getting it out does not exceed \$6400, as we expect, this means that the annual net cost of the JOURNAL for 1917 will exceed that of 1916 by only \$400, instead of \$1500, as we had expected, and also that the JOURNAL will be published at little cost to the Association except for editorial salary at a time when the costs of publication are fully 50 percent more than formerly.

The credit for this remarkable achievement is due to Editor Eberle who has labored most zealously, not only in minimizing expenditures and securing additional advertising—a difficult task at this time—but also in corresponding with authors and getting them to condense their papers, with the result of briefer and better papers, and with this, the high standing of the JOURNAL as the leading exponent of scientific pharmacy in this country has been maintained.

Condensation of Papers for the Journal.—In the matter of securing the condensation of papers for the JOURNAL, Editor Eberle has acted with the approval of the Committee on Publication, but something more than this is needed, and the Committee on Publication endorses the suggestion of the New York Branch that the Council pass a rule that no article or report of more than ten pages (excepting the annual address of the President) shall be published by the Editor in the JOURNAL except by the unanimous consent of the members of the Committee on Publication, there being, in the rule, a qualifying clause that the absence of a vote within ten days from any member of the Committee on Publication shall be considered as assenting to the publication of the lengthy article.

Such a rule would obligate the authors to condense lengthy papers and would relieve the Editor and the Committee on Publication of embarrassment in their relations with the contributors to the JOURNAL.

Printing of Journal for 1917.—The contract for printing the JOURNAL for 1917 was awarded to the Eschenbach Printing Company of Easton, Pa., on October 30, 1916. As everyone knows, not only have the costs of all materials used in the making of journals enormously advanced, but the wages in the labor market of the printing world have greatly advanced, also. Hence, we were particularly fortunate in obtaining an exceedingly advantageous contract for printing the 1917 JOURNAL with the Eschenbach Printing Company, with the option of renewing the same contract for 1918 if exercised on or before October 1, 1917.

Year Book for 1915 (Vol. 4).—The contract for printing the Year Book for 1915 was awarded to the Eschenbach Printing Company of Easton, Pa., on March 13, 1917, "subject to contingencies beyond control such as strikes, accidents, embargoes, supply of raw materials, fires, goods, etc." Copy was furnished soon thereafter by Reporter Army and the book was distributed on July 21, 1917.

As Reporter Army graciously states: "The Report on the Progress of Pharmacy for the year 1915 is the joint effort of the present reporter and his predecessor, Prof. Koch. Thanks to the latter gentleman and his diligent collaborators, the work of the present reporter has been largely the filling in of gaps and the task of final editing. At this time he desires to state that the credit for the valuable features of the Report is due largely to these gentlemen."

The reading pages of the 1915 Year Book totalled 600, those of the previous issue 860—a reduction of 260 pages. Nothing was lost by the condensation. The progress in pharmacy has been fully and completely reported, but tersely, with resultant benefit to the Association financially. For this the Association is under obligation to the able Reporter on the Progress of Pharmacy, Prof. H. V. Army.

The 1915 Year Book (Vol. 4) distributed last month, cost \$2901.94, including expressage, etc., which, with the salary of the Reporter on the Progress of Pharmacy (\$600) totalled \$3501.94. The cost of the previous volume was \$2922.03, which with the salary of the Reporter on the Progress of Pharmacy (\$600) amounted to \$3522.03. The cost for the 1914 and 1915 books is, therefore, practically identical, despite the increased printing costs of fully 50 percent.

The Future of the Year Book.—At the Atlantic City meeting (1916) of the Association, the Committee on Publication discussed the future issuance of the Year Book and recommended that a statement of the facts of the case be mailed to the membership in November (1916) with the official ballot and each member be requested to express his or her views on the subject. The recommendation was agreed to and the ballots distributed. Seven queries on the continuance or discontinuance of the Year Book under stated conditions were given and the results published in the Journal (1917, February number, p. 184).

The results clearly indicated that the membership wished the Year Book continued as heretofore, with no increase in membership dues; and as this is the expressed wish of the Association by ballot, the decision is final.

Fortunately, the treasury of the Association is, today, in a better financial condition than it has ever been before, and unless the existing war conditions make printing costs prohibitory, there is, apparently, no reason why the expressed wish of the membership cannot be complied with.

Issuance of Year Book of 1916 (Vol. 5).—Reporter Army writes: "Work on the mss. of the 1916 Year Book (Vol. 5) is progressing nicely. I find that there are about the same number of papers as last year (about 1200), and of these only about 200 remain to be made before the mss. of 1916 Year Book will be ready for the final editing. Most of these abstracts are in the hands of my collaborators and will most likely be in my hands at the time of the Indianapolis meeting.

The 1916 Year Book should be issued late in 1917 or early in 1918. The criticism is sometimes made that these books are not gotten out earlier, but few members have any conception of the labor involved in the condensation of 1200 or more papers, and also the fact that conditions are different now than when the fiscal year of the Association ended on July 1, and not on December 31, as at present.

With the exception of the 1911 Proceedings, which covered a period of eighteen months (July 1, 1910, to December 31, 1911), all the Proceedings have been for periods of the former fiscal year, *i. e.*, from July 1 to July 1. Thus, the 1910 Proceedings was from July 1, 1909, to June 30, 1910; 1909, from July 1, 1908, to June 30, 1909; 1908, from July 1, 1907, to June 30, 1908, etc. In other words, with the Proceedings it usually took a year's time before the Proceedings for the year was gotten out, and not a few months only, as the "year-number" of the volumes might imply.

The Year Book is now issued, of course, for the fiscal year of the Association, *i. e.*, January 1 to December 31.

Sales of National Formulary, Fourth Edition.—23,000 copies of N. F. IV have been printed and bound. Of these the stock remaining on hand on June 1, 1917, was 2873 (1773 Muslin, 963 Buckram and 137 Interleaved). In other words, practically 20,000 have been sold since the first copy was issued on July 25, 1916. The General Secretary will present in his annual report a statement as to the distribution of the book and the Treasurer in his report a statement as to the receipts and expenditures.

The Committee on Publication wishes especially to emphasize the fact that the "net receipts" for the book as given in the Treasurer's report are not the "net profits"—that, in order to fairly determine the latter, there should be charged against the receipts the "overhead expenses" since the issuance of the previous edition of the book in 1916, including a proper proportion of the cost of salaries of officials and the cost of the research work utilized by the Committee on National Formulary in its work, such as the Proceedings, the Year Book and the JOURNAL—all of which embrace research work, and all of which contribute, directly and indirectly, to the National Formulary. If this is done, then the "net receipts" will be so reduced that the "net profits" will be seen to be small, if not negligible.

Copyright of N. F. IV.—Application for copyright of the National Formulary, Fourth Edition, was made to Thorwald Solberg, Register of Copyrights, Washington, D. C., in the name of the American Pharmaceutical Association and was granted. The date of publication was August 15, 1916; the affidavit was received November 20, 1916; the copies of the two books required to be deposited in the Library of Congress were received November 20, 1916, and the entry was Class A, XXc, No. 446,505.

Permission for Use of Portions of Text of U. S. P. IX in N. F. IV.—Application was made to the Board of Trustees of the U. S. P. C. to use certain portions of text of U. S. P. IX in N. F. IV, which was granted, a nominal charge of twenty-five dollars being made for such use.

Permission Granted for Partial Use of Text of N. F. IV.—Since our last report the following applications for the *partial* use of the N. F. IV have been made and granted:

- (1) "Treatise of Pharmacy." By Charles Caspari, Jr. By Lea and Febiger.
- (2) "Publications of N. A. R. D. for Propagandic Work." National Association of Retail Druggists. Otto E. Bruder, Propagandic Director.
- (3) "Materia Medica." By David M. R. Culbreth, M.D. Published by Lea and Febiger.
- (4) "Key to the U. S. P. and N. F." By D. O. Haynes and Company.
- (5) "The Physicians Drug Codex." By the Medical Council.
- (6) "U. S. Dispensatory," Twentieth Edition. By the J. B. Lippincott Company. (Part I.)
- (7) "Gray's Pharmaceutical Quiz Compend." By Mrs. M. M. Gray.
- (8) "Sayre's Organic Materia Medica." By P. Blakiston's Son and Company.
- (9) "Wright's Guide to the Organic Drugs of the Pharmacopoeia and National Formulary." By Eli Lilly and Company.
- (10) "Buckley's Dental Materia Medica." By P. Blakiston's Sons and Company.
- (11) "U. S. Dispensatory," Twentieth Edition. By the J. B. Lippincott Company (partial use of text of descriptions of crude drugs in Part II of N. F. IV).

Changes in the Pharmacopoeia and the National Formulary.—It is interesting to state that the Hygienic Laboratory, U. S. Public Health Service, Treasury Department, has compiled and has recently issued "Bulletin No. 107" (July, 1917) giving "A Digest of the Changes and Requirements Included in the Pharmacopoeia of the United States (Ninth Decennial Revision) and in The National Formulary (Fourth Edition) with References to the Titles Not Continued from the Preceding Editions."

Such a digest will be of much practical value to physicians and pharmacists in enabling them to readily ascertain the changes made in the official standards.

Complimentary Copies of N. F. IV, Series B, to Members of Committee on National Formulary.—At the suggestion of Otto Raubenheimer, each member of the Committee on National Formulary was sent a copy of Series B of N. F. IV, so that he could check up the corrections of text and also have on hand for reference a copy of the N. F. IV that was entirely free from mistakes.

A copy of the N. F. IV was sent to the Chairman of the Board of Trustees of the U. S. P. C., for inspection as to use of parts of text of U. S. P. IX in N. F. IV.

Hygienic Laboratory, U. S. Public Health Service (2 copies furnished).

Selling N. F. IV in Foreign Countries.—The sale of the N. F. IV in foreign countries is, of course, impracticable under existing war conditions, and possibly under normal conditions. There is no profit in the business for foreign dealers at present prices. The postal rates to most foreign countries is the same as our eighth zone, 12 cents per pound or fraction thereof. If foreign business is desired, it should be arranged for the foreign dealers to sell above the retail prices in this country, but we do not think it necessary to consider the subject at this time. We hold the same opinion with reference to the publication of the N. F. IV in Spanish, which has been suggested.

J. W. ENGLAND, *Chairman.*

The report of the editor was read and on motion of H. C. Fuller, seconded by J. L. Turner, it was approved. It was as follows:

Philadelphia, August 1, 1917.

To the Council of the American Pharmaceutical Association:

DEAR SIRS:

I herewith respectfully submit my report as Editor and Advertising Manager of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION. In order that you may have figures for comparison: the total receipts of the JOURNAL for 1914 were \$3539.39; for 1915, \$3620.33.

The reports submitted show in detail the receipts and expenses for the year 1916, and separately for the seven months up to August 1, of 1917. The expenses do not include the Editor's salary. It should perhaps be stated that vouchers for all expenses go to the General Secretary, and all expenses are thereupon paid by the Treasurer. All checks received are made payable to the Treasurer. A monthly statement is made to the Publication Committee of all transactions, and also a summary at the end of every quarter.

It will be seen that the total income for 1916 was \$5478.21, exceeding that of 1914 by \$1938.82,

and that of 1915 by \$1857.88. The expenses for 1916 were \$5623.07; thus, the expenses exceeded the receipts by \$144.86. I have not an account of the expenses of preceding years, but for the last six months of 1915 they were \$2999.27, while for the corresponding months of 1916 they were \$2773.40, showing that for the corresponding months the expenses were \$225.87 less in 1916 than in 1915. This was largely due to a more favorable publication contract.

The total expense is divided as follows: \$4431.13 for publication of the JOURNAL; \$243.45 for mailing; express and freight, \$50.81; binding, reprints and stencils, \$44.27; engravings and etchings, \$88.36; commissions on advertising, \$70.62; clerical expense \$532.75; office postage, \$117.18; stationery and office supplies, \$44.50.

Of the receipts, \$5225.57 came from advertising, \$244.64 from subscriptions, sale of single copies and bound volumes, and \$8.00 from reprints. With the exception of two sets of reprints, J. B. Lippincott Co. handled that business as the Association was making no profit out of it, since the printing of them is for the convenience of the contributors.

Our 1916 contract was made only for one year, and prices of paper and other printing material having advanced beyond reasonable expectations, it was necessary to make a new contract which foreboded an increase of cost of nearly 50 percent. The demand for chemicals and shortage of material made the securing of new advertising more than difficult. Fortunately, we can report conditions for 1917, up to August 1, that are exceedingly encouraging.

The receipts up to August 1, 1917, are \$3684.05, while the total expenses for the same months are \$3663.99. For comparison with the same months of 1916, we have receipts \$3437.11 and expenses \$3257.38. Thus while our expenses for the seven months have increased, our receipts have also, so that by August 1, the difference between receipts and expenses of the seven months amounts to only \$159.67 more up to August 1 than for the same period of last year. I am sure this is gratifying to those who were fearful of a decidedly increased difference, for the figures indicate a relation between receipts and expenses as favorable as last year, when the cost of producing the JOURNAL was lower.

The increased cost is due almost entirely to the higher cost of producing the JOURNAL, and the increased office postage is due to the fact that of necessity there is much mailing and remailing of copy, proof, etc., to Publication Office. Our receipts for 1917 are still slightly in excess of the cost of production, namely, by \$20.06.

In 1915, we had 26 non-member subscribers to the JOURNAL, at present, we have 47, and while numerically this is small, as the advantages received by joining the Association in paying an additional dollar are quickly recognized, however, it shows that there is some outside increasing interest in the publication. In writing to prospective subscribers, we invariably call attention to the advantage of membership, whereby they also receive the Year Book.

Aside from such assistance, it must also be remembered that the JOURNAL prepares the way for the publication of the A. Ph. A. Recipe Book. In one sense this might be considered an expense to the JOURNAL that the Association should provide for in another account. But this is what the JOURNAL is for: to be of greatest value to pharmacy and the Association. In this connection the Editor desires to express appreciation of the work of Prof. Otto Raubenheimer and the Committee on the A. Ph. A. Recipe Book. It should be a means of bringing more members into the Association.

The JOURNAL is an integral in the Research Work of the American Pharmaceutical Association, which is part of the contributory service to other related professions and activities, coördinating the benefits thereof for the general good of humanity, and which entitles pharmacy to recognition as a profession. The JOURNAL is an essential link in this chain of coöperation as well as in the upbuilding of the Association; as necessary to American pharmacy as like mediums are to medicine, to chemistry, every other profession, the arts and the industries.

The Editor consults freely with the Publication Committee, and sometimes thinks that he tries the patience of the members, but they have been considerate, and he desires to thank them for their helpfulness. The Editor endeavors to serve the members of the Association to the best of his ability and judgment and expresses thanks to the contributors and all members for their uniform kindness and consideration, and welcomes the advice that will make the JOURNAL better and more serviceable.

The largest source of income for the JOURNAL is derived from advertising patrons. They realize the value of the JOURNAL for delivering their messages to pharmacists. There are, however,

many others who could be induced to use the advertising pages if the members would encourage them to do so. Also, if members would occasionally refer, in writing to advertisers, to the fact that they had noticed the advertisements, it would be helpful. The Editor would like to see the time come when the JOURNAL can be produced without any cost whatever to the Association; this is not impossible, if the members will help in the manner indicated.

In conclusion the Editor hopes that his efforts and the results of his work may meet the approval of the membership whom he strives to serve to the best of his ability.

Thanking you,

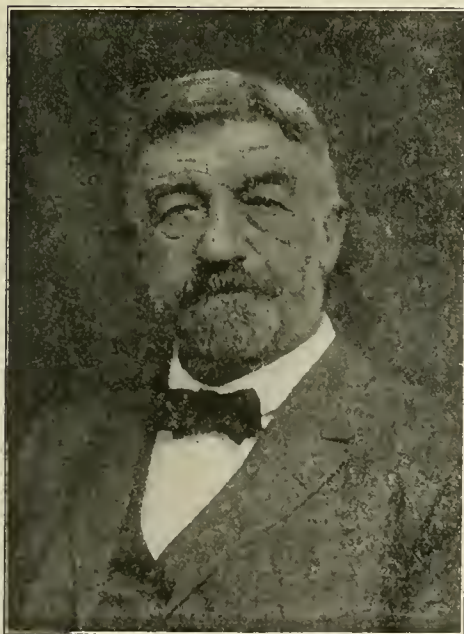
Sincerely,

E. G. EBERLE.

Adjourned to meet Wednesday, August 29, 1917, at 7.00 P.M.

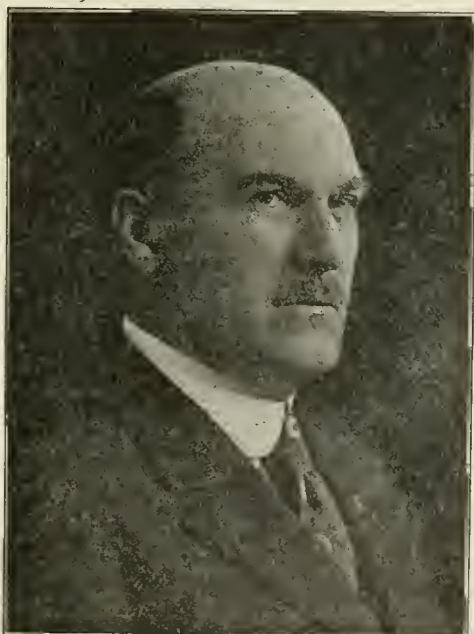
J. W. ENGLAND,

Secretary.



CHARLES HOLZHAUSER, Newark, N. J.

President of American Pharmaceutical Association



H. C. CHRISTENSEN, Chicago

Secretary National Association of Boards of Pharmacy

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, E. L. NEWCOMB, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Office of Publication, 253 Bourse Building, Philadelphia, Pa.

PHARMACEUTICAL FORMULAS.

Pharmaceutical Formulas proposed for the A. Ph. A. Recipe Book are omitted from this issue. Chairman Otto Raubenheimer advises that they will, however, be continued in the November number of the JOURNAL.

MAJOR D. A. COSSAR.

We have referred in an editorial to the prospective visit of Major D. A. Cossar, the Staff Pharmaceutical Officer for Australasia, to this country. Major Cossar is president



MAJOR D. A. COSSAR

of the Pharmaceutical Society of Australasia and is said to be the youngest pharmacist who has ever reached that position. He was apprenticed in 1896 to William Simpson, of

North Melbourne, attended the College lectures in 1898 and passed the final examination in 1903. Soon thereafter he entered the business he now conducts at Burwood Road, Hawthorne.

Upon receipt of advice, Dr. Frederick J. Wulling at once communicated with Surgeon-General Gorgas and Dr. William J. Mayo, with the end in view to bring about a conference to consider pharmaceutical matters of the U. S. Army. Dr. Wulling also addressed Chairman S. L. Hilton of the American Pharmaceutical Association Committee on National Defense, so that Major Cossar might receive every attention possible to further the object of his work and at the same time throw light on the consideration of the matter for our further efforts. It will be recognized that under present conditions it is not always possible to know the whereabouts of a military official but it is to be hoped that the American Pharmaceutical Association and pharmacists generally will have the opportunity of showing courtesies and attention to the distinguished visitor. The JOURNAL assumes the privilege of extending a welcome.

SPECIAL COMMITTEE TO STIMULATE DRUG PRODUCTION IN THE UNITED STATES.

Immediate steps towards maintaining and developing as soon as practicable a domestic supply of drugs, which are now short on the market, are to be taken by the drug trade under the leadership of government experts, following the convention of the American Pharmaceutical Association in Indianapolis.

Dr. Warner W. Stockberger, in charge of drug plant and poisonous plant investigations for the Bureau of Plant Industry, U. S. Department of Agriculture, was named chairman of a special committee to determine a conservative policy in regard to stimulation of drug production. Dissemination of information regarding the need of drug crop production will be regulated so as to reach those specially trained.

PUBLIC HEALTH SERVICE AT WASHINGTON FINDS COURT PLASTER NOT DELIBERATELY CONTAMINATED.

The Hygienic Laboratory of Public Health Service, Washington, reports that there is no ground for believing that the contamination of court plaster with tetanus germs, as recently reported, was intentional. The report further states that court plaster is not clean in the surgical sense and various health departments advise that sales by itinerant vendors should be prohibited because of the fact that such plasters offer a favorable field for the breeding of both dirt and disease germs, and because of this should be kept in condition of cleanliness and freedom from contamination, impossible when carried from place to place in a vendor's handbag.

ETHYL ALCOHOL FROM WOOD AS GOOD AS ANY OTHER.

According to the Forest Service, U. S. Department of Agriculture, there is no reason for discriminating against ethyl alcohol made from wood in favor of that from grain or molasses, according to the Government chemists of the Forest Products Laboratory at Madison, Wisconsin. The amount of impurities in commercial ethyl alcohol, they say, is very small, and the impurities are probably less objectionable when wood is used as a base than when grain or molasses is used.

The prejudice against the use for some purposes of ethyl alcohol made from wood is probably accounted for, the experts say, by a confusion with methyl or "wood" alcohol, which is poisonous. Both products are derived from wood, but are radically different. The ethyl, or grain alcohol, is made by reducing the wood to sawdust, treating the sawdust with an acid to produce chemical sugars, and converting the fermentable sugars into alcohol by fermentation, as in the case of grain or molasses. Wood alcohol, however, is obtained by condensing certain gases which are liberated when the wood is heated in air-tight retorts, so that it decomposes without burning.

Ethyl alcohol has, it is stated, been commercially manufactured from wood for several years in this country. It is suitable for any use to which ethyl alcohol from any other base

is put. Improvements on the processes which have been developed at the Forest Products Laboratory have made it possible to decrease the former cost of production.

NATIONAL EXPOSITION OF CHEMICAL INDUSTRIES.

The National Exposition of Chemical Industries held in New York City during the week of September 24 was attended by about 100,000, and so well pleased were the exhibitors that spaces for exhibition have largely been reserved for next year.

It was estimated that 25,000 chemists and others interested in kindred professions attended the show. Enthusiastic throngs of technical men were in evidence each day, owing to the fact that the exposition proved to be a great clearing house for information on chemistry.

THE QUALITY OF AMERICAN-MADE SYNTHETICS.

The Council on Pharmacy and Chemistry, with the aid of the A. M. A. Chemical Laboratory, proposes to make a study of the quality of American-made synthetics. It will examine specimens of important, unofficial synthetic drugs submitted by their manufacturers and later, when these drugs are offered for sale, purchase them on the open market and report on their purity. The Council also offers to examine specimens of American-made synthetics when submitted by dealers, providing the origin of such specimens is established.

This control of synthetic drugs, which as the result of the war are now made in this country, is believed to be in the interest of American industry, for the protection of the public, and to the satisfaction of physicians. Since the manufacture of some of the synthetic drugs is to some extent experimental in this country, it is due physicians and the public, that they be given the protection which will come from the proposed investigation of the market supply. In undertaking this investigation, the Council feels confident that the responsible manufacturer will welcome this check as the best way of establishing complete confidence in his product.

W. A. PUCKNER, *Secretary*.
Council on Pharmacy and Chemistry.

JOURNAL OF THE

SOCIETIES AND COLLEGES.

REGISTRATION LIST OF THE SIXTY-FIFTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, AUGUST 27 TO SEPTEMBER 1, 1917, INDIANAPOLIS, IND.

(Continued from p. 844. The list in September Number was complete only to August 30.)

Chas. W. Anderson, Indianapolis, Ind.

I. A. Becker, Chicago, Ill.

Waldo Moffitt Bowman, Toledo, Ohio.

H. E. Barnard, Indianapolis, Ind.

George W. Bohn, Evansville, Ind.

Frank M. Best, Lafayette, Ind.

Hugh Craig, Chicago, Ill.

Edgar B. Carter, Indianapolis, Ind.

H. W. S. Carter, Indianapolis, Ind.

Thos. B. Crigler, Attica, Ind.

C. S. Dearborn, Indianapolis, Ind.

Mrs. C. W. Deusner, Batavia, Ill.

Julia E. Emanuel, Ft. Wayne, Ind.

M. A. Elstein, Kansas City, Mo.

Robt. J. Frick, Louisville, Ky.

Frank H. Freericks, Cincinnati, O.

H. M. Gordin, Chicago, Ill.

Wendell J. Gift, Converse, Ind.

Harold Gray, Indianapolis, Ind.

E. H. Gane, New York City.

H. F. Gerald, Omaha, Neb.

H. C. Hamilton, Detroit, Mich.

C. C. Hargreaves, Indianapolis, Ind.

William C. Harder, Indianapolis, Ind.

Frederick Hunsche, Chicago, Ill.

Mrs. J. M. Irvin, Indianapolis, Ind.

W. A. Jamieson, Indianapolis, Ind.

M. G. Johnson, Fulda, Minn.

Ralph C. Jennings, Chicago, Ill.

R. A. Kuever, Iowa City, Ia.

E. W. Koch, Indianapolis, Ind.

John Uri Lloyd, Cincinnati, O.

C. E. Lawson, Indianapolis, Ind.

Mrs. C. E. Lawson, Indianapolis, Ind.

J. M. Lindly, Winfield, Iowa.

C. E. Loertz, Seymour, Ind.

Earl S. McRoberts, Indianapolis, Ind.

Frank B. Meyer, Gary, Ind.

Harry B. Mason, Detroit, Mich.

Wm. J. Mooney, Indianapolis, Ind.

J. G. Mueller, Indianapolis, Ind.

Clemens O. Mueller, Indianapolis, Ind.

Mrs. Clemens O. Mueller, Indianapolis, Ind.

Mrs. L. Morton, Indianapolis, Ind.

Ferd A. Mueller, Indianapolis, Ind.

Fred A. Miller, Greenfield, Ind.

H. L. Parmelee, Indianapolis, Ind.

Mrs. H. L. Parmelee, Indianapolis, Ind.

Ellen H. Sayre, Lawrence, Kans.

P. H. Shields, Wheeling, W. Va.

E. H. Thiesing, Cincinnati, Ohio.

Mrs. E. H. Thiesing, Cincinnati, Ohio.

Robert W. Terry, Groveport, Ohio.

Geo. B. Topping, Columbus, Ohio.

J. Wilfred Vestal, Indianapolis, Ind.

A. L. Winton, Wilton, Conn.

Wood Wiles, Bloomington, Ind.

N. Emery Williams, St. Louis, Mo.

Chas. F. Wilson, Rushville, Ind.

NATIONAL COMMITTEE ON THE PHARMACEUTICAL SYLLABUS.

BULLETIN XIII.

Financial Report of the National Committee on the Pharmaceutical Syllabus September 1, 1916, to August 31, 1917.

Receipts.

Sale of 14 copies of the Syllabus....	\$18.43
American Pharmaceutical Association.....	25.00
National Association of Boards of Pharmacy.....	25.00
American Conference of Pharmaceutical Faculties.....	25.00
Total	\$93.43

Expenditures.

Postage.....	\$ 7.00
Premium, insurance on plates for printing Syllabus.....	2.00
Printing.....	8.15
Typewriting and duplication of Bulletins VII-XII.....	6.00
Repayment of cash advanced by Secretary-Treasurer.....	46.33

Total.....	\$69.48
August 31, 1917—Cash on hand....	\$23.95

Total.....	\$93.43
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During the past year all indebtedness of the Committee was paid and there is a balance on hand in the treasury for the first time.

There are about two hundred copies of the Syllabus on hand.

Signed,
THEODORE J. BRADLEY,
Secretary-Treasurer.

Accounts and Vouchers examined and found correct, Aug. 29, 1917.

WM. H. RUDDER.

BULLETIN XIV.

Minutes of the meeting of the National Committee on the Pharmaceutical Syllabus held at the Claypool Hotel, Indianapolis, Indiana, August 29, 1917.

Present: Chairman Gregory, and Messrs. W. C. Anderson, G. M. Beringer, Albert Bolenbaugh, T. J. Bradley, John Culley, G. C. Diekman, E. G. Eberle, J. A. Koch, W. H. Rudder, C. H. Skinner and C. M. Snow.

The Secretary-Treasurer submitted his financial report for the year ending August 31, 1917, which was received and referred to Mr. Rudder for audit. (This report has been distributed as Bulletin XIII.)

Chairman Gregory stated that the condition of his health made it imperative that he decline a reelection as chairman of the Committee. The following officers were unanimously elected: *Chairman*, Theodore J. Bradley of Boston; *Secretary-Treasurer*, Clyde M. Snow of Chicago.

On motion of Mr. Rudder, Dr. Gregory was given a unanimous vote of appreciation and thanks for his long and faithful services as Chairman of the Committee.

The present Syllabus and its next edition were discussed at length and the following motions were unanimously carried:

Motion 1, made by G. M. Beringer, seconded by J. A. Koch.

That a third edition of the Syllabus be prepared, to be issued in 1919 and to become effective in 1920.

Motion 2, made by W. C. Anderson, seconded by G. C. Diekman.

That an outline for a third-year course, including prescribed and elective studies, be prepared, looking toward its possible inclusion in the next edition of the Syllabus.

Motion 3, made by J. A. Koch, seconded by C. M. Snow.

That the sub-committees should endeavor to submit drafts of the parts for the third edition of the Syllabus at the 1918 meeting of the Committee.

At the suggestion of Mr. Bolenbaugh, it was agreed that teachers in pharmacy schools and members of boards of pharmacy, as far as is practicable, should be invited to suggest ways for improving the next edition of the Syllabus.

Meeting adjourned.

THEODORE J. BRADLEY,
Secretary-Treasurer.
BOSTON, MASS., September 20, 1917.

BULLETIN XV.

The Chairman is now working on some general plans for the work of preparing the next edition of the Syllabus and requests each member of the Committee to send any suggestions along this line that he can. The following covers matters that are especially wanted at this time.

The subjects included in the second edition of the Syllabus, with their relative time allotments, were selected and assigned on the basis of our experience with the first edition. Have you any suggestions (1) for subjects that should be dropped, (2) for additional subjects that should be included in the minimum two-year course, and (3) for a readjustment of hours? Such suggestions will be of help to the sub-committees when they get to work on the revision.

What subjects do you think should be required in the proposed third-year course for the degree of Pharmaceutical Chemist, and what are your ideas as to the subjects that are to be elective in this course?

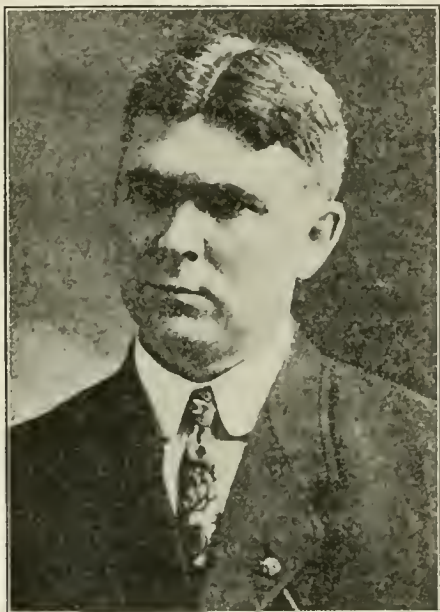
What are your first, second and third preferences for appointment on a sub-committee? The sub-committees are to prepare the revisions of the chapters on materia medica, chemistry and pharmacy. As far as possible the members will be appointed to sub-committees of their first or second choice. Prompt answers are requested as appointments will be made early in October.

Yours truly,
THEODORE J. BRADLEY,
Chairman.

(Bulletin XII is part of the proceedings of the Second General Session.)

NATIONAL ASSOCIATION OF RETAIL DRUGGISTS.

The twentieth annual meeting of the National Association of Retail Druggists was held in Cleveland, September 17-21. Considering the conditions of the times, there was a large attendance. National legislative matters predominated at the meeting and a protest was made to Congress against the imposition of a 5 percent tax on proprietary medicines and also against adding more taxes to the present ones on medicinal alcohol. Hearty accord with the Government in its war program was expressed and the support of the Association tendered. It was favored that



W. H. COUSINS, Dallas, Tex.
President N. A. R. D.

some of the patents on foreign-made preparations that are not now available should be abrogated so as to supply the American market with such preparations. The Stephens Bill was again indorsed, also the recommendation that pharmacy be recognized as a profession by the Government and that pharmacists be given better rank in the Army and Navy.

The recommendation had been introduced that the Association build and operate a permanent home but this was disapproved and, in part, the recommendation of President Frederick J. Wulling of the American Pharmaceutical Association, to provide a federation

of all drug and pharmaceutical interests, which includes the provision of a general home, received recognition.

The Association was opposed to all unnecessary changes in the Harrison Law. It was urged that steps be taken at once to legalize the new Pharmacopoeia and National Formulary. The work of the American Metric Association, tending toward the adoption of the metric system of weights and measures, received the approval of the Association, also that there be a more complete coöperation between the Bureau of Chemistry



SAMUEL C. HENRY, Philadelphia, Pa.
Secretary N. A. R. D.

and the Drug Trade Conference in the matter of standards for imports.

On account of the resignation of Secretary Thomas H. Potts, who had served the Association for many years, Samuel C. Henry of Philadelphia was elected to succeed. W. H. Cousins of Dallas, Texas, was elected president of the Association; O. E. Muhlhan of Cleveland, W. B. Cheatham of San Francisco and A. A. Bradley of Williston, N. D., were elected vice-presidents; G. W. Stevens of Detroit was reelected treasurer and J. F. Finneran and

Robert J. Frick, the retiring president, were elected to serve on the Executive Committee. More specific powers were given the delegates to the Drug Trade Conference, empowering them to vote on questions without referring them to the general body of the Association, reference to the Executive Committee being sufficient.

MEETING OF AMERICAN CHEMICAL SOCIETY.

The Convention of the American Chemical Society held in Boston during the week beginning September 10, was largely attended. The meetings were held at Hotel Lenox and at the Massachusetts Institute of Technology. War-time demands and the progress of the chemical industry, due to these conditions, were the keynotes of the convention.

President Stieglitz spoke on "The Outlook of Chemistry in the United States." Referring to synthetics he said: "The future prosperity of the country will depend in very large measure on our efficiency in chemistry, and to stimulate this to the greatest possible degree, the speaker urged that manufacturers treat their research chemists more fairly by sharing with them more equitably the profits resulting from their discovery and invention instead of exploiting them. The wiser policy has been largely responsible for the German leadership in chemical manufacturing. Under such conditions every chemist works with his heart and soul in his own interest. This stimulus of ambition and interest would be in line with the present social evolution. The future welfare demands also fair protective duties for dye and drug and chemical manufacturers, and better patent registration so that we may have a large measure of chemical independence. Chemistry is now preparing remedies, which, in many instances, are far superior to natural products, and the United States must do its share of the work of raising medicine from the realm of art to the safer one of science." Chemists have saved many great American industries that were temporarily paralyzed by the deprivation of chemicals, colors and dyestuffs made in Germany, and this country owes these scientists a debt that money cannot repay.

DIVISION OF PHARMACEUTICAL CHEMISTRY.

The first meeting of the Division of Pharmaceutical Chemistry was called to order by Chairman L. F. Kebler in Room 4-142 of the

Massachusetts Institute of Technology at 9:50 A.M., Wednesday, September 11. The morning session was devoted to a discussion of the topic "Pharmaceutical Chemistry and the Future." The subject was presented by the Chairman in a very interesting address, and was discussed informally by Messrs. T. J. Bradley, Atherton Seidell, W. F. Rudd, F. O. Taylor, Mortimer Bye, F. R. Eldred and G. D. Beal.

A nominating committee composed of Messrs. Eldred, Bradley and Bye was appointed by the Chairman. At the conclusion of the session the members present were invited by Professor T. J. Bradley, Dean of the Massachusetts College of Pharmacy, to visit the new building of the college in process of erection, which invitation was accepted with thanks. The meeting adjourned at 11:50 A.M. to start on this excursion.

The afternoon session was called to order at 2:20 P.M. The paper by Otto Raubenheimer, entitled "The Need and Necessity of Pharmaceutical Chemists," and the paper by A. Viehovever and M. G. Mastin, entitled "Studies on *Piper bredemeyeri*, an Adulterant of Mastic," were passed because of the absence of the authors. The following papers were presented by the authors: "Woodchuck Oil" and "Gopher Oil," by G. D. Beal and J. B. Brown; "Notes on the Relative Adsorptive Power of Various Fuller's Earths," by Atherton Seidell; "Some Notes on Court Work," by L. F. Kebler. The Secretary read in abstract papers by Chas. H. LaWall entitled "A Deceptive Practice Occasionally Met,—a Case," and Nellie Wakeman, "Carvacrol, a Constituent of *Monarda punctata*."

The Committee on Analytical Methods, provided for a number of years ago, was revived, and instructed to offer to coöperate with the Committee on Unofficial Standards of the American Pharmaceutical Association. The committee, as now provided for, is to be composed of nine members, three to be chosen each year, the chairman to be elected annually by the Division. The committee for the current year was chosen as follows: To serve for one year, Messrs. Herman Engelhardt, W. D. McAbee and L. D. Havenhill; to serve two years, A. D. Thorburn, Geo. D. Rosengarten and W. O. Emery; to serve three years, G. D. Beal, L. F. Kebler and B. L. Murray. Mr. Murray was chosen to act as Chairman.

The following officers were elected by the

Division: *Chairman*, F. O. Taylor, of Detroit, Mich.; *Vice-Chairman*, H. W. Rhodhamel, Indianapolis, Ind.; *Secretary*, G. D. Beal, Urbana, Ill.; *Additional members of the Executive Committee*, L. F. Kebler, Washington, D. C., E. B. Carter, Indianapolis, Ind.

The meeting then adjourned.

GEO. D. BEAL, *Secretary*.

NATIONAL PHARMACEUTICAL SERVICE ASSOCIATION INCREASES MEMBERSHIP AND ACTIVITY.

Sixty-eight new members, representing twenty-three different States, were elected into the National Pharmaceutical Service Association at the fourth regular meeting held at the Philadelphia College of Pharmacy, September 10, 1917. Communications were read by the Secretary and President showing that there was considerable interest throughout the country regarding the association and that the bill creating a Pharmaceutical Corps in the Army which had been introduced at the instigation of this association is receiving loyal support by pharmacists generally. It was reported that the National Association of Boards of Pharmacy, American Pharmaceutical Association and the American Con-

ference of Pharmaceutical Faculties had endorsed the work of the association and the bill pending in Congress, and President George M. Beringer stated that a joint meeting of the Council of the A. Ph. A. with representatives of the N. A. R. D. had been held at Indianapolis at the time of the A. Ph. A. convention and the support of the N. A. R. D. could be counted upon as it is anticipated that the convention at Cleveland during the week of September 17 will take favorable action with regard to the matter.

An amendment creating the office of treasurer which had been held over from the previous meeting was unanimously adopted and Mr. J. C. Peacock was elected to this office.

Congressman Edmonds of Philadelphia who sponsored the bill creating a Pharmaceutical Corps is expected to address the association at its meeting to be held October 8.

Pharmacists of military age who have been conscripted should keep in touch with the officers of this association so that when the bill passes Congress and is signed by the President there may be a record of those who are now engaged in the service and may be transferred to the Pharmaceutical Corps where they rightfully belong.

THE PHARMACIST AND THE LAW.

IOWA PREREQUISITE LAW.

The following prerequisite law became effective in Iowa, July 4, 1917. It was introduced by Hon. J. M. Lindly, active in the Iowa Pharmaceutical Association as well as in the American Pharmaceutical Association.

SECTION 1. That the law as it appears in Sections Twenty-five Hundred Eighty-nine-*b* (2589-*b*) and Twenty-five Hundred Eighty-nine-*c* (2589-*c*) Supplement to the Code, 1913, be and the same is hereby repealed and the following enacted in lieu thereof:

SECTION 2. No person shall be eligible to examination for registration as a pharmacist until he has passed his twenty-first birthday and shall have successfully completed the work of two college years in a reputable school or college of pharmacy as herein defined and has presented to the Commission of Pharmacy his own affidavit and that of his employer or employers affirming that he has had not less than two years of practical experience as clerk under the supervision of a registered pharmacist in a drug store or pharmacy in which physicians' prescriptions are com-

pounded. Provided, however, that if an applicant of college work, an additional year or more so successfully completed shall be the equivalent of one year of such practical experience. A reputable school or college of pharmacy shall be such school or college of pharmacy whose entrance and graduation requirements are equivalent to those prescribed by the American Conference of Pharmaceutical Faculties for the year 1917.

SECTION 3. Any person who is at the time of the taking effect of this law actually employed in a drug store and who shall, on or before the first day of October, 1917, file with the Commission of Pharmacy a sworn statement of proof of that fact, or who is registered by said commission as an assistant pharmacist, shall be exempt from the requirement of attendance at a reputable school or college of pharmacy and shall be entitled, if of the required age, to examination for registration upon the completion of four years' practical experience in a drug store where physicians' prescriptions are usually compounded as herein defined. Provided, further, that one

year of college work as herein defined shall be equivalent of one year of practical experience. If upon examination the Commission finds such person qualified he shall be entitled to registration as a pharmacist.

SECTION 4. A certificate of registration or license as a pharmacist or assistant pharmacist issued by the proper board or commission of any state or foreign country may be accepted as evidence of qualification for registration in this state, provided the holder thereof shall present said evidence of qualification equal to those required of licentiates in this state that he was registered or licensed by examination in such other state or foreign country and that the standard of competency required in such other state or foreign country accords similar recognition to the licentiates of this state. Applicants for license under this section shall, with their application, forward to

the Secretary of the Commission of Pharmacy a fee of Ten Dollars.

SECTION 5. If the applicant has passed his eighteenth birthday and shall have successfully completed the work of two college years in a reputable school or college of pharmacy as herein defined and has presented to the commission his own affidavit and that of his employer or employers affirming that he has had not less than two years of practical experience in a drug store where physicians' prescriptions are usually compounded he shall, upon passing a satisfactory examination, be granted an assistant's certificate to be exchanged for full registration when he shall have reached the age of twenty-one years and upon satisfactory proof that he has had, since the taking of the examination, two additional years of practical experience in a drug store as defined herein.

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of the change of address is received before shipment or mailing.

Both the old and the new address should be given thus:

HENRY MILTON,

From 2342 Albion Place, St. Louis, Mo.

To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

CHANGE OF ADDRESSES SINCE AUGUST 18,

1917.

BLAYLOCK, FRED C.,

From Residence Unknown.

To 1614 Kentucky St., Lawrence, Kans.

FRIEDMANN, E.,

From Residence Unknown.

To 2323 Laurel Ave., Minneapolis, Minn.

PARMELEE, H. L.,

From Residence Unknown.

To Walsingham Apts., Cor. 16th & Delaware Sts., Indianapolis, Ind.

RABINOWITZ, WM. J.,

From Residence Unknown.

To 518 W. 134th St., New York, N. Y.

WALL, J. R.,

From Residence Unknown.

To 18 W. 36th St., New York, N. Y.

WHITE, J. L.,

From Residence Unknown.

To 149 New Montgomery St., San Francisco, Cal.

WITT, C. T. A.,

From Residence Unknown.

To 215 W. Ohio St., Chicago, Ill.

XRQUES, H. R.,

From Residence Unknown.

To 1924 Esplanade, New Orleans, La.

WEISNER, N. F.,

From 2349 Germantown Ave., Philadelphia, Pa.

To 20th & Parrish Sts., Philadelphia, Pa.

RHINEHEARDT, CHAS. B.,

From Marshall, N. Car.

To Sylva, N. Car.

CHATFIELD, H. B.,

From Hosp. Steward, U. S. S. Denver, Care Postmaster, San Francisco, Cal.

To Residence Unknown.

GIVEN, F. I.,

From Hillsboro, N. Mex.

To Residence Unknown.

HUGILL, R. E.,

From 32 Adams Ave. W., Detroit, Mich.

To Residence Unknown.

- JOHNSON, B. A. (Miss),
From 245 Main St., Penns Grove, N. J.
To Residence Unknown.
- PEAT, C. A.,
From 32 Adams Ave. W., Detroit, Mich.
To Residence Unknown.
- SMITH, WM. E.,
From Residence Unknown.
To Care Missoula Drug Co., Missoula, Mont.
- GASEN, H.,
From Residence Unknown.
To Care Gillespie Drug Co., Gillespie, Ill.
- CHARLES, C. J. I.,
From Residence Unknown.
To P. O. Box 378, Limon, Costa Rica, A. C.
- PARIS, J. E.,
From 112 N. Pruett St., Paragould, Ark.
To care Fairview Fluorspar & Lead Co.,
Golconda, Ill.
- PARKER, C. H.,
From U. S. Marine Hosp., St. Louis, Mo.
To Cape Charles Quarentine Station, Ft.
Monroe, Va.
- BURNSIDE, C. B.,
From 320 W. 2nd St., Davenport, Ia.
To 501 W. 8th St., Davenport, Ia.
- COOLBAUGH, L. E.,
From care McKinney's Pharmacy, Corsi-
cana, Texas.
To care Old Corner Drug Store, Waco, Texas.
- DEISS, ELMER B. (resign),
From 1436 Fifth Ave., Pittsburgh, Pa.
To Rosedale & Tioga Sts., Pittsburgh, Pa.
- WALL, J. R.,
From 18 W. 36th St., New York, N. Y.
To 62 W. 36th St., New York, N. Y.
- McEWEN, I.,
From 509 S. 35th St., Omaha, Neb.
To 3507 Dewey Ave., Omaha, Neb.
- BROWN, L. A.,
From care United Drug Co., Analy. Lab.,
Boston, Mass.
To care Experiment Station, Lexington,
Ky.
- JOHNSON, C. W.,
From 5031—15th Ave. N. E., Seattle, Wash.
To 4515—16th Ave. N. E., Seattle, Wash.
- MOORE, MAXWELL,
From Fowler, Clinton Co., Mich.
To 308 W. Chestnut St., Albion, Mich.
- SPEER, WM. O.,
From 458 Greenwich, Valparaiso, Ind.
To 804 Mound St., Valparaiso, Ind.
- ALPERS, OTTO,
From 580 Atlantic Ave., Brooklyn, N. Y.
To 29 Orient Ave., Brooklyn, N. Y.
- SCHMIDT, M. R.,
From 15 Union Park Ave., Jamaica, L. I.,
N. Y.
To 353 Moshola Parkway North, New
York, N. Y.
- WELSH, JOSEPH B.,
From care Lax-Fos Co., Paducah, Ky.
To care Paris Medicine Co., St. Louis, Mo.
- FLAKE, WM. L.,
From Water Valley, Miss.
To Canadian, Texas.
- DELHOTAL, CHAS. E.,
From Attica, Kans.
To 517 N. Topeka, Apt. 6, Wichita, Kans.
- YOUNGKEN, D. W.,
From 1724 Spring Garden St., Philadelphia,
Pa.
To Military Medical Detachment, 56th In-
fantry Regt., Chattanooga, Tenn.
- LUNDGREN, L. A.,
From Residence Unknown.
To 1512 Erie St., Youngstown, Ohio.

BOOK NOTICES AND REVIEWS.

A Short Manual of Analytical Chemistry, Qualitative and Quantitative—Inorganic and Organic. By John Muter. Sixth American Edition. Illustrated. Price, \$2.00. P. Blakiston's Son & Co. Philadelphia.

This manual, long and favorably known for its concise treatment and practical classification of analytical processes, both qualitative and quantitative, in the present edition retains the general character and scope of the former editions. It has been made to conform to the ninth revision of the United States Pharmacopoeia and the main changes occur in Chapter IX, where electrolytic de-

terminations have been embodied and in Chapter XI, in which the U. S. P. IX assay processes and standards for drugs and preparations are given.

Molecular Weights have been changed to conform to the standard O = 16.

J. A. K.

The Prescription, therapeutically, pharmaceutically, grammatically and historically considered. By Dr. Otto A. Wall, Fourth and revised edition. One vol., pp. 274. C. V. Mosby Company, St. Louis, 1917. Price, \$2.50.

This monograph is certainly a unique volume in American pharmaceutical and medical literature. Every one who knows its author and the vast store of historical information at his command, will understand how much special study and painstaking care have been put into the volume. That so unique a book should have demanded a fourth edition should prove to the skeptic that information, commonly designated as being of a general cultural value, can be and is being appreciated by technical and professional students.

To those to whom the earlier editions are not already familiar, the title will impart sufficient information as to the contents. The reviewer, therefore, avails himself of the opportunity to point out that it would be well for other authors to give to their technical treatises a broader aspect. This can, no doubt, best be done by making most of the historical development of the subject treated. In attempting such a treatment it will not suffice to prepare a brief historical statement somewhere in the book. The spirit of historical development, in other words, of the evolution of the subject, should possibly dominate. The scientist, above all others, should know that a mere dogmatic statement of the facts, commonly recognized at the time, does not afford the correct viewpoint. Indeed, the scientist should avoid as much as possible such a presentation. Unfortunately, however, he is among the most guilty in this respect.

That the technical information imparted by Wall's "The Prescription" is proving valuable to students and practitioners is clearly shown by the new editions demanded. Who will deny that, as a stimulus to the study of the historical development of our calling and all that pertains thereto, it is not rendering an even greater service?

E. K.

Plant Materials of Decorative Gardening; The Woody Plants. By William Trelease. One vol., pp. 204. Published by the author, Urbana, 1917. (Price, \$1.00.)

As Director of the Wisconsin Pharmaceutical Experiment Station, the writer has had innumerable inquiries about medicinal plants, wild as well as cultivated. The first report of the station contains a list of native Wisconsin plants, that have been used medicinally, with page references to the three standard dispensaries. A copy of this report was sent to every drug store of the state.

Whenever practicable, the writer has referred persons seeking information about native medicinal plants to their local druggist. It is to be hoped that the druggists thus approached will be glad to avail themselves of the opportunity to impart to old or prospective customers professional information along these lines.

Occasionally one finds a druggist who enjoys the cultivation of medicinal plants in his flower garden. Others seem to prefer to leave everything that reminds them of drugs in their store and to cultivate plants that do not suggest what they regard as their drudgery. Occasionally a druggist's wife takes an interest in plants whether pharmaceutical or not. Whether the druggist himself or his wife be interested in a garden, the pocket volume just published by Professor Trelease will be very welcome to many a lover of our friends of the vegetable kingdom. For many years Director of the Missouri Botanical Garden, the author has had an unusual opportunity to acquaint himself not only with cultivated plants, but also with the general public that loves plants, and hence to appreciate their needs. This pocket guide that is to introduce us to our summer friends of our lawns, gardens and parks, will unquestionably stimulate us to a better acquaintance and thus prove exceedingly helpful. That Professor Trelease has rendered a real service to many of us there can be no doubt.

E. K.

PUBLICATIONS RECEIVED.

Proceedings of the American Drug Manufacturers' Association, 1917 (formerly National Association of Medicinal Products). The volume contains the stenographic report of the convention at the Waldorf-Astoria, February 6-7, 1917, with the exception of the address on "Vocational Selection," by Professor Walter Dill Scott, later published in book form by the author, and the report of the meeting of the Biological Section, where all the business transacted was executive and of which no record was made. The book is bound in buckram and has 275 pages.

Proceedings of the Thirty-Ninth Annual meeting of the Missouri Pharmaceutical Association held at Excelsior Springs, June 12-15, 1917.

Proceedings of the Thirty-Eighth Annual Meeting of the North Carolina Pharmaceutical Association held at Ashville, June 19-21, 1917.

Proceedings of the Thirty-Eighth Annual Meeting of Texas Pharmaceutical Association held in San Antonio May 15-17, 1917.

Proceedings of the Thirty-Third Annual Meeting of the Minnesota Pharmaceutical

Association and Minutes of the Northwestern Branch A. Ph. A. Wulling Testimonial held at St. Paul, February 13-15, 1917.

Announcements of various Schools of Pharmacy for the scholastic year 1917-1918.

JOURNAL ANNOUNCEMENTS.

Subscriptions: Annual subscriptions in advance, including postage: United States and Mexico, \$4.00; Canada, \$4.35; foreign countries, \$4.50. Single copies, 35 cents. Remittances should be made payable to Treasurer H. M. Whelpley, but mailed to JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, Easton, Pa., or 253 Bourse Building, Philadelphia, Pa. Under the rules of the Post Office the JOURNAL can be regularly mailed only to bona-fide paid subscribers.

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Contributions: The JOURNAL accepts no responsibility for the opinion of its contributors. Contributions should be sent to the Editor; use only one side of the sheet for writing, and double-space the lines. Articles are accepted for publication on condition that they are contributed solely to this JOURNAL; and "all papers presented to the Association and its Branches shall become the property of the Association, with the understanding that they are not to be published in any other publications than those of the Association, except by consent of the Committee on Publication." (By-Laws, Chapter X, Article 11.)

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them, provided the order is received with the returned proof. The prices are also given on this page. Otherwise type is distributed as soon as the JOURNAL is printed.

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Membership: Applications for membership in the American Pharmaceutical Association may be made of any of the officials. The annual payment of five dollars covers the annual dues and subscription to the JOURNAL. Members receive, also, the publications of the Association that are distributed free of charge.

Further information will gladly be furnished by any of the officers of the Association and members.

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200....	2.20	4.40	6.60	8.80	2.09

Orders may be sent to Eschenbach Printing Company, Easton, Pa., or JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, Easton, Pa., or 253 Bourse Building, Philadelphia, Pa.

I AM NO PESSIMIST.

I know druggists can make money. Lots of them are making money right now and all the time. But they are not doing it by defying conditions as they are. They are making money, in most cases, because they have kept abreast of the times, do business in a live manner and meet every condition that appears face to face.

The druggist who makes money knows that good-will is his strongest asset and this can never be gained by a system of arbitrary prices in the face of live, cut-rate competition.—*Pittsburgh Druggist.*

WILLIAM LAWRENCE DEWOODY

PINE BLUFF, ARK.

Honorary President of American Pharmaceutical Association, 1917-1918

The badges worn by Mr. Dewoody when photograph was taken are those of the St. Louis Convention, 1901



W. L. DEWOODY

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. VI

NOVEMBER, 1917

NO. 11

W. L. DEWOODY.

William Lawrence Dewoody, of Pine Bluff, Arkansas, was born in Athens, Ala., December 30, 1848; his family removed to Mississippi while he was an infant. His school advantages were meager, the Civil War interfering, and almost abolishing all schools in the South.

With patriotic zeal he joined the Army, and in the summer of 1864 served in the Mississippi State Guards, and later attached himself with Henderson's Scouts in the Confederate service.

Mr. Dewoody's father, Samuel Dewoody, was a man of unusual literary ability, and possessed an extensive knowledge of plants and their uses. This talent, and the ambition to learn, were inherited by his son, who has made the most of his opportunities. He decided in early manhood to go into the drug business, having become interested in it through his love of nature. As a boy, he spent much of his time in the woods, and became familiar with all of the indigenous plants, which were remarkably prolific in this section of the country; he scouted the woods in search of rare specimens, and gathered those most profitable, commercially. His father, a druggist, used many of these for medicinal purposes, others were shipped to market, and in this way he not only made his financial start, but laid a thorough foundation for his life work. From nature his father taught him the elements, and rudiments of chemistry.

In 1868, Mr. Dewoody purchased a drug store on the Tennessee River, employing an experienced pharmacist, from whom he gathered much practical information. He continued in business here for a short time, when he became possessed with the desire to do business on a larger scale, in a different locality. He disposed of his holdings and located in Pine Bluff, Arkansas, May 12, 1870, where he established a drug business, under the firm name of Nelson & Dewoody. Not many years after, he became the sole owner of the store and has carried it on without interruption; he has always enjoyed the good-will and confidence of the community, and a fair share of its patronage. To this business he has given the best part of his life. Many of the most prominent men in the community owe their success, in a large degree, to the thorough training they received while in his employ, and he is very much beloved by them.

In 1887, at Cincinnati, Ohio, Mr. Dewoody became a member of the A. Ph. A.; he has always been a loyal, enthusiastic member, and during the thirty years of his affiliation with the Association he has missed very few of the annual meetings.

He served on the Arkansas Board of Pharmacy for four years. Outside of his drug interests, our subject has held many positions of trust and honor, and is at present holding many responsible offices. His face is turned to the sunset and he rests secure in the love, esteem and confidence of the community at large.

E. G. E.

EDITORIAL

E. G. EBERLE, Editor

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THANKSGIVING.

THANKSGIVING DAY will be considered from a somewhat different viewpoint this year than in the past. Material prosperity has heretofore been a governing thought, a measure of happiness, and if this was gratifying a more or less indifferent thanksgiving was forthcoming, in which self received most, if not all consideration; financial gain, aggrandizement, subsistence, dress and pleasures have entered too largely into the thoughts of men and women.

The present cataclysm has even now required money and means in heretofore unheard-of amounts, and we fumble in vain through our vocabulary for superlative expressions that will convey a shadow of the meaning. More than this, millions have already given their all for the cause, and now our young men must participate in this sacrifice to make the world better, to prevent the possibilities of a re-enactment of such an appalling tragedy. Under these circumstances, it is not to be wondered that many cannot see why there should be thanksgiving, and still this world experience may have in it the propulsion of general good that will yield its benefits to humanity for centuries to come.

Computations of the cost of the war are being made while other minds are calculating the gain to the world in the acquisition of higher ideals, a firmer grasp on the doctrine of the brotherhood of man. A catastrophe works upon the hearts of men in somewhat the same way that earthquakes do in nature, which dash the mountains into fragments but expose the seams of gold. We have been indifferent and supercilious, we have been content in our ambitions and boastful of our achievements and resources, but we are beginning to recognize an interrelation among nations, within our own people, a dependency that links the humblest citizen to the highest in authority, and if the lessons of the war will establish higher ideals, develop a new and broader vision then, even though our faces are turned with sadness toward Europe, and the distress of war is felt at home, we can be thankful and hopeful for being part of a better citizenship and nation with a truer perspective and a knowledge that man is greater than his material possessions, that cultivation of the conquest of self is an essential for victory without spoils.

The world is thankful that physicians and surgeons have been able to improve the methods of medical treatment and extend the possibilities of surgery; under the exigencies of war the medical, surgical and sanitary sciences are taking their longest strides. Just as the armies are being kept in health, so will the civilians receive the benefits of the improved methods and new discoveries. It is true that hoped-for opportunities have so far not been given to pharmacists

in this country, but there is a progressive tendency toward a better recognition. France has acknowledged the importance of military pharmacy, and an able paper on the subject, by George M. Beringer, will be found in this issue. England has taken a step forward by conferring rank on pharmacists engaged abroad and, it is safe to say, when our Army officers are brought in touch with the French military organization, endorsement will be given to the establishment of pharmaceutical corps in the U. S. Army.

The American Pharmaceutical Association, through the means afforded by the income from the National Formulary, has established a research fund, which is bound to be of value to pharmacy and medicine. President Frederick J. Wulling, in his annual address, proposed a federation of the drug and pharmaceutical interests, whereby they may coöperate, if the plan is put into effect. Both of these propositions testify to the sincere purpose of extending the usefulness of pharmacy. Pharmaceutical research should be left to pharmacists, and more intensive coöperation on their part is essential thereto and for the advancement of pharmacy. Let us be thankful that we can participate in the service for pharmacy.

It is no difficult matter to find cause for complaint, but the trade and profession have handled the trying situation with relatively little inconvenience or diminished profits notwithstanding that many druggists and pharmacists cannot comprehend that taxes on merchandise are intended to be passed on to the consumer. There are many who cannot be reached by any other kind of taxation and who would otherwise contribute nothing to the cause. So with all the trials and difficulties that druggists and pharmacists have had to contend with and will continue for an indefinite period, there is abundant reason for thanksgiving, not only for the comforts enjoyed but for the opportunities of service. E. G. E.

COÖPERATION BETWEEN PHARMACOLOGY AND THERAPEUTICS.

THE address of Chairman A. W. Hewlett, M.D., of the Section on Pharmacology and Therapeutics of the American Medical Association, presents important points of interest to pharmacists and more particularly for those engaged in developing standards of biologic assays. The contribution evidences that a close coöperation should exist between pharmacists and practitioners of medicine, between teachers of the related branches in schools of medicine and of pharmacy, and that the establishment of a research fund in the American Pharmaceutical Association was a timely move.

In the last issue of the JOURNAL, papers on biologic assays were printed, relating not only to variation in standards but the effect of age on the activities of drugs and their preparations. In the article referred to, other problems are discussed which require the consideration of the pharmacist and the medical

practitioner; the author discusses these in the presentation of the following questions:

1. Are the effects observed produced by doses that can safely and easily be administered to patients?
2. Will the human organism react in the same manner as the animal studied?
3. How is this reaction modified by disease?

In the comments made, the thoughts of Doctor Hewlett are largely employed, even to the extent of using his language without further credit. The following disclose some of the influential factors in therapeutic advance.

"Modes of treatment frequently form the starting point of scientific studies, and the exact knowledge thus gained leads in turn to greater precision in treatment."

"Pharmacologic studies have uncovered new therapeutic possibilities that have ultimately proved useful in the clinic."

"A clear recognition of the fact that substances of similar chemical structure frequently possess pharmacologic properties that are similar but not identical has opened up a vast field of research."

There are factors, worthy of consideration, that may result in different conclusions. The pharmacologist obtains his data from laboratory experimentation; the practitioner of medicine must not infrequently resort to *materia medica* which may prove successful or not, the interpretation of the effects may be right or wrong, and this is reflected in therapeutic literature—the drug is pronounced efficient or inefficient according to the result, without studious analysis. In the laboratory the action of drugs is usually studied on normal animals, and toxic doses can be administered with impunity; in the clinic, therapeutic doses are used, and the effects may be modified by disease.

The question of dosage, both as to quantity and method of administration, is a matter of importance. The marked rise of arterial pressure produced by large doses strychnine injections induced its use by clinicians in conditions of low pressure, whereas it has been conclusively proven that the former was due to toxic effect. The reputation of *digitalis* for slowing the heart, in practice, is based on observations which were made on those suffering from auricular fibrillation. In the laboratory intravenous injections are employed, and only seldom in general practice. Different species of animals may respond differently to the action of drugs.

It is sufficient to have shown that coöperation between pharmacologists and practitioners of medicine is highly important and that on their coöperative work largely depends the progress of medicine. Pharmacy must do its part, and we are pleased that many of the papers of the Scientific Section were thoroughly in line with the coöperative movement, and also to repeat, that the establishment of the research fund by the American Pharmaceutical Association was timely and, that these opportunities will be promoted when laboratory facilities are provided by the Association.

E. G. E.

CONSERVATION.

CONSERVATION is one of the watchwords of the times, and is applicable for the prevention of many small wastes that occur in every drug store, as well as the larger application of frugality, whereby the opportunity is afforded to serve a greater number without the compelling necessity for more extended production.

In the October issue of the *JOURNAL*, p. 904, appears a contribution of the Section on Commercial Interests by Robert P. Fischelis, which is timely. Simply because manufacturers will take back biological products after the expiration date of the package is no justification for putting in an oversupply. The individual is apt to overlook the fact that there are 50,000 others who may also overstock, and create a waste, not only of the product itself but of the other parts of the package.

This ought to be a period of intensive coöperation, the manufacturers and the wholesalers should indicate to the retailers, not only where the latter can conserve time and expense for the former, but also point out economies of value. Every retailer realizes that there is a saving in portorage cost when all deliveries can be made to a certain section on one trip, and a similar application can be made to purchases of the retailers from the wholesalers. It is now time to study the delivery system closer; service is appreciated by customers, but often without concern of the cost to the dealer. If service is valuable then it should be worth a price. Other items of expense that are not properly taken care of by all are telephone service and stamp sales. If these are made use of for advertising purposes, then they should produce business, if not, then the service should be paid for.

There are, however, leaks that more directly concern the owner of the store, decrement, deterioration or destruction, which, if summed up, constitute a money value that would buy a Liberty Bond. The writer was in a drug store, a short time ago, where system was as near perfection as is possible; there were shelf containers for stock, that protected corks, prescription ware, paper, labels, etc., small items, but very important from the standpoint of cleanliness, order, conserving of time and preventing depreciation. The same thought applies to merchandise, in which there may not be a direct loss, but if this has gone out unsightly or imperfect, it will certainly have an effect on future sales.

The present is a time for examination of methods that have been conducive to waste: the higher cost of living can in a degree be offset by thriftiness that will induce greater efficiency. Put the resolutions to conserve and to cut out waste into practice. As Mr. Fischelis concludes his article on "Conserving Life by Eliminating Waste," "to do your bit means more than flying a flag over your store."

E. G. E.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

SOLVENTS IN PHARMACY.*

(Continuation of "Precipitates in Fluid Extracts," 1885.)

BY JOHN URI LLOYD.

Introduction.—In 1879 to 1885 (inclusive) the writer contributed to the American Pharmaceutical Association a series of papers entitled "Precipitates in Fluid Extracts." This cosmopolitan text enabled him to enter into any desired phase of plant pharmacy manipulation, the study chiefly concerning physics, as applied to or involved in pharmacy. Publication was suspended in 1885, though research based upon this study proceeded. Most entrancing was this continuation of the published study, although seemingly not directly connected with pharmacy as an art.

In 1890, the writer began to issue a series of printed contributions titled "*A Study in Pharmacy*." This was intended for private distribution only, the intent being to present therein the results of experimentation subsequent to 1885. Recently, the evolution of thought and action, in pharmacy, physics and chemistry, has led to a kindlier opinion of investigations such as these. The writer, therefore, encouraged by several friends, and especially by Dr. Wolfgang Ostwald, presumes to present the accompanying paper as a continuation of the series suspended in 1885 (very few changes being made in the old manuscript), in the hope that it will not be a burden. It may also be considered as a part of the aforementioned "*Study in Pharmacy*," following the chapter titled "*Reference to Capillarity*."

The enthusiastic interest our late member and friend, Dr. Martin I. Wilbert, took in these researches, with which he was so conversant and so urgent that they be not lost, leads the writer to hope that it may be proper to consider this contribution as a belated recognition of his requests, and to present it as an offering to his memory.

PART I.

Menstruum. A "Menstruum" in plant pharmacy is a liquid solvent intended for use in the making of a pharmaceutical preparation, its primary object being the abstraction of a body or group of substances, in perfect or partial solution, from a vegetable tissue. At first thought such an achievement seems a simple matter, as it would be, were it not that in plant structures many substances other than those desired are always therewith associated, both mechanically and in textural combination. If, for instance, a vegetable tissue were composed of pure linen fiber or porous ligneous pulp, embedded in which a definite alkaloid existed intact, it would be comparatively easy to ascertain the proper solvent for this alkaloid or resin. This having been determined, we could then, theoretically, use an appropriate solvent as the abstracting medium, separating the substances desired without dissolving any of the fiber containing the same.¹ But the writer recalls no instance of such simplicity in natural drug

* Presented in abstract before Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

¹ We are neglecting the force of physical attraction, or mass affinity, in which apparently inert materials often possess powerful attractives. For example, picric acid is soluble in water, in which such substances as wool and horn are insoluble, yet, it is impossible to wash picric acid by means of water out of the finger nail, wool or horn. Not less pronounced are some plant extractives in their adhesive affinities for textural fibers.

texture. Simple, therefore, as at a cursory glance the matter of solvents appears, the selection and adaptation of a suitable menstruum that will first abstract and afterward preserve the abstracted therapeutic constituents² becomes a perplexing problem, even when, according to authoritative standards, but one constituent of accepted therapeutic value is contained therein. To the writer, indeed, it seems that galenic pharmacy at this date (1885) embraces no subject more essential than is the experimental consideration of menstrua and connected manipulation, in their own relationships, as well as to materials manipulated. In its entirety, connecting therewith such phases of the problem, as the drug, the menstruum and the product, there is presented a field for investigation that cannot be disregarded, and must not be underrated.

So far as the writer is aware, this subject has, as a separate feature in the field of pharmacy, been considered so unimportant, or at least it has been so neglected that not even the courtesy of a single chapter in any work devoted to pharmacy has been restricted exclusively to menstrua and connected phenomena. Manipulations have, as a rule, been instituted and directed without mention of the influences exerted by the selected medium, or reasons offered for its preference over others that might have been used, or that had been previously suggested or employed for the same purpose. Many solvents of very decided characteristics have also been utterly neglected in pharmaceutical print.

To the writer this seems due, largely, to the blanket system of classification of pharmaceutical preparations that has prevailed, from time gone by to the present, and which yet dominates pharmaceutical thought and action. Also, satisfaction with the inherited processes of the past (involving in pharmacy chiefly alcohol and water as menstrua) is responsible for the neglect of opportunities in outside directions. Surely, in a time to come, very many of the galenical preparations now included among the Pharmacopeial "Tinctures" and "Fluid Extracts" must, if pharmacy credits itself, give way to carefully studied natural plant *separates*. Galenical processes, instead of beginning and ending with simple percolation, or infusions and decoctions, will utilize such methods as these merely as a first, or introductory, step to perfected products (liquid pharmaceuticals), the products being subsequently worked, where desirable, by means of differentiating solvents, without the application of destructive chemical processes. This can be accomplished in such a manner as rationally to exclude inert materials, overcome subsequent decomposition and precipitation, and produce permanent solutions that are representative of desirable parts of natural plant structures.

When, therefore, a systematic effort is made to pass beyond present crudities of galenical pharmacy, a preliminary study of menstrua, both as concerns their qualities and relationships, will be found to be the first essential. Applied plant pharmacy of the future must, before it can accomplish its object, embrace a systematic consideration of the far too long neglected nature and solvent attributes of solvents and their compounds, from a *physical side* (accepting that solutions are physical), which is of not less importance than are the chemical and physical relationships of the drug manipulated. The physician deserves, and in the very

² The problem is not restricted to therapeutics, but this paper centers thought on pharmacy.

near future will demand, better medicines than the present crudities known as "Extracts" and "Tinctures," and if they are not supplied, legitimate pharmacy must surely suffer. In this thought, let us repeat, pharmacists must soon awaken to the fact that in the evolution of a finished plant product, a crude percolate is *but the first step*, and that discriminative research in the direction of solvents as excluders and abstracters, may be one feature that will yet make the art of pharmacy a recognized science. Does not our "Study of Precipitates in Fluid Extracts" (1879-1885) warrant us in making these statements and this prediction?

The subject having thus been touched, briefly and in a general manner, the writer believes that, in the progress of pharmaceutical art, next in order comes a study of a selected group of possible solvents. As a preliminary necessity, let us then (superficially) consider some features of the general phenomena connected with this problem.

This term expresses, in a general way, the property that substances possess, of being mutually drawn toward each other.

Attraction. In magnetism, some features of electrical phenomena, and in gravitation as well, this influence is exerted without actual contact of the bodies; but in cohesion, adhesion and capillarity, the substances concerned must be in actual contact. Bodies so acted upon may, after their coalition, without known chemical alteration, present attributes more or less different from those originally possessed, as separates.

This force unites the integral particles (molecules) of a homogeneous body. Thus, the molecules of a liquid (and of some phases of solids) are in apparent contact, and are held together by cohesion, which exerts its influence only on particles of matter at insensible distances from each other. For example, by cohesion the globule of mercury assumes its mass form.

Mass Action³
or
Structural Affinities.

is a term I use to apply to the attractive force that holds the surfaces of different substances against each other. It is a mass influence, possibly molecular in some directions, exerted by bodies in contact. Like cohesion, it acts only at insensible distances. Under its influence, liquids and even gases adhere to solids, or solids may attach themselves together, without the structure undergoing any internal alteration. In some cases, bodies that under one condition attract each other, are under other conditions repellant. For example, crystals of hydrastine will stick together under certain influences, while under other conditions they fly apart. Such variations as these, and similar exhibitions of mass movements seem chiefly to depend on electrical phenomena. It is difficult, in our present study, to draw a distinct line between the phenomena exhibited by the forces of cohesion, attraction and mass action, and more difficult to differentiate them from what is known as capillarity, which in the writer's opinion, in its many outreaches, employs them all. Such phenomena are all-important to the pharmacist.

³ I should to-day (1917) use the term *Adhesion* instead of mass action. Indeed, I shall occasionally replace it in the text that follows.—J. U. L., 1917.

embraces, as a chief feature, the united influences of cohesive and mass attraction. The force "cohesion" is thought to produce a surface tension of the superficial film of a liquid. This results, when a tube is held in a liquid, in an upward movement to the liquid's edges, and its surface as well, due to the surface of the liquid within the tube and the tube's surface attracting each other. The surface of the uplifted liquid then becomes concave (Fig. 1). When the surface of the container and the liquid repel each other, a downward movement of the liquid results, its surface becoming convex (Fig. 2). The weight and attraction of an

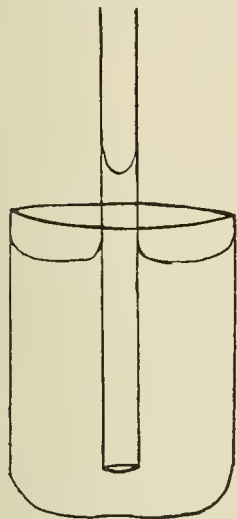


FIG. 1.

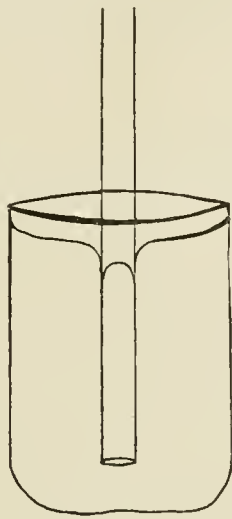


FIG. 2.

overlying gas, or the weight and capillarity of an overlying liquid, as well as the affinity or repulsion of each for the surface of the container, are important factors in such phenomena.⁴

The term "capillarity" is often restricted to the phenomena exhibited when liquids rise in hair-like tubes, but the same influence produces the meniscus at the edges of liquids in large vessels, and (when no solid deposited from the solutions exerts its influence) causes liquids to creep upward on the surface of solids. The nearer parallel surfaces approach each other, as in parallel panes of glass, or the smaller the tubes, the higher the liquid rises in tubes of mutual attraction. An example is shown in the placing of a glass rod near the side of a beaker of water and gradually moving it from the glass.

In 1709 Hanksbee, an English experimenter, first made accurate experiments in capillary attraction, and since that date many conspicuous scientists have given

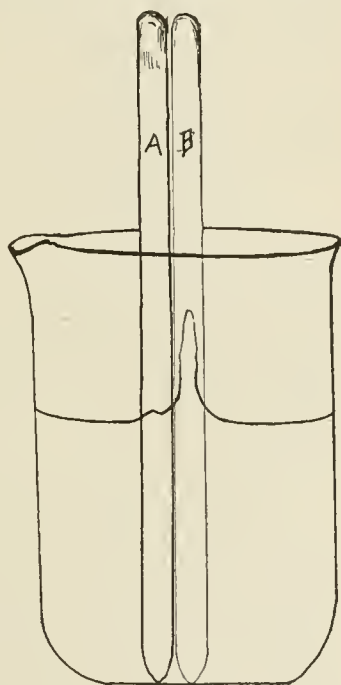


FIG. 2a.

- A. Glass rod coated with paraffin.
- B. Clean glass rod.

Beaker of Water: Water attraction above surface in vessel shown on B.

⁴ These phenomena, together with experimental illustrations, have been a source of great interest to this writer. They are part of another section of this study, and are there liberally illustrated.

the subject close attention. Long since (Dr. Jurin, 1718) it was established that the rise of a liquid is inversely in proportion to the radius of the tube. We believe that this investigator used glass vessels, and that his results apply to glass only, other surfaces varying in their attractions.⁵ Theories explanatory of the observed phenomena have since been worked out with mathematical exactness by such men as Newton, Laplace, Thomas Young, and others conspicuous as scientists. The phenomenon of capillarity depends on the combined influences of:

1. Gravity (the resisting force).
2. The mutual attraction (cohesion) that the neighboring molecules of a liquid exert on each other, which produces the surface tension of the liquid. (Include Mass Action here.)
3. Temperature.
4. The nature of the overlying substance (including gases), as concerns its affinity for the liquid and its container.
5. The container, that furnished the surface of contact.

Notwithstanding the exhaustive investigations that have been made in the study of capillarity during a period of more than two hundred years, little, if anything, has as yet been accomplished to assist those who propose to study the comparative capillarity and connected influences and attributes of different solvents on different drugs used by pharmacists.⁶ This fact, and the paucity of printed results in our field, is an excuse for the burdening of this paper with these introductory remarks, as well as other features apparently irrelative to pharmacy.

The solvents herein employed are all neutral. Those

Reagents or Solvents. official stand the tests of the Pharmacopeia of the United States, 1880. It is not practical, in pharmaceutical manipulations, to employ reagents of an absolute state of purity, nor is there any necessity, in practical pharmacy, for "painful" exactness, when the contaminating agent is unobjectionable, therapeutically. Indeed, an occasional admixture may be sometimes beneficial, as when chloroform contains a little alcohol. Official ether also contains some alcohol; alcohol contains some water; methyl alcohol may contain traces of acetone, and other official liquids may bear similar minor complications. Considerable latitude should be allowed in pharmaceutical processes for variations in result, occasioned by conditions surrounding

⁵ This is proven by experiment Fig. 2, in which a paraffined glass tube reverses capillarity of water. Immerse a clean glass rod and a glass rod coated with paraffin, side by side, in a beaker of water. Capillary attraction of the two glass surfaces is shown by A, the paraffined rod by B. Fig. 2a. This feature is a part of this study and is illustrated in its bearings on connected problems.—J. U. L.

⁶ "References to Capillarity," Lloyd Library Bulletin No. 4, 111 pages, gives the bibliography of capillarity research to 1900. This was made by Dr. Sigmund Waldbott in order that it might be established whether research herein named had been accomplished. From the preface we reproduce as follows: "Since brief reference only is made to this phenomenon in our pharmacal works, and as in none of them do we find citations that assist us in the study of this neglected section of pharmacy, before entering into more detailed review of the subject embraced under the blanket term capillarity, it seems proper to present reference to such connected literature as has been consulted in the production of this résumé. With this object, an endeavor will be made to begin with the earliest reference and end with the current year."

individual operators, as well as for the "personal equation" of operators. Thus, in general "drug store" work, it is impossible to govern temperatures exactly, and decided changes in temperature are often followed by somewhat different returns, even in experiments in seemingly purely *physical* directions. In the domains embraced by this study of solvents, no endeavor is made to go into the minuteness of exact scientific research, which might defeat the very object of the work. Still, the reagents employed by the writer were the purest obtainable, and the details were repeated more than once, some of them being recently verified by another person.⁷ The benzol and benzin⁸ used were supplied by Dr. Charles Rice. In like manner, the reagents employed by Miss Van Guelpen in the review work (1917) (excepting the petroleum benzin) were the purest possible to obtain, being guaranteed "chemically pure" by the house of E. R. Squibb and Company, Brooklyn, from whom they were obtained, under the personal selection of Dr. Virgil Coblentz. In order to parallel exactly the experiments of 1885, alcohol of the specific gravity (0.820) in use at that date was employed in 1917.⁹ In addition to neutral solvents, liquids that exert chemical alterations may be mentioned, as follows:

Concentrated sour acids cannot be used, undiluted, **Acidulated Solvents.** as plant menstrua. Diluted with some of the neutral liquids recognized in the U. S. Pharmacopeia as solvents, the sour acids impart qualities distinct from those commonly observed. For example, they increase the power of water as a solvent for most alkaloids, and decrease the solvent power of alcohol, with the exception, perhaps, of acetic acid—most alkaloidal acetates, so far as the writer's experience extends, being more or less soluble in alcohol. The sour mineral acids, excepting sulphuric acid, when added to water increase its capacity for the phosphates of calcium and magnesium, and excepting the calcium compounds, for mineral salts generally. Since many plants contain structures capable of liberating considerable amounts of these inorganic bodies, percolates containing such acids are often heavily charged therewith.

Most, if not all the sour acids, are insoluble in carbon disulphide, chloroform, benzol and benzin; hence these liquids cannot be acidulated, excepting by vapor of the volatile acids, or by mechanical agitation, which produces physical admixtures. Salts of many alkaloids may be easily made by passing the vapor of acetic, nitric or muriatic acids through their solutions in appropriate menstrua, most alkaloidal *salts* being insoluble in such as these. Appropriate acids added to

⁷ Miss Eda Van Guelpen (1917), in the writer's laboratory, repeated a few of those most important.

⁸ "Benzin" of commerce was then, and is now, exceedingly unsatisfactory. In the experiments of Miss Van Guelpen (1917), petroleum benzin having the following general qualities was used. It had a gravity of 0.764 and a boiling point of 125° centigrade. That of 1885 had a gravity of 0.670, boiling point not determined. Were the study to be now instituted, benzin would be excluded as a solvent.

⁹ The writer desires herein to express to the firm of Edward R. Squibb and to Professor Virgil Coblentz his sincerest thanks for the pains taken to help him in these investigations. Not only did they (1917) donate free of all expense the liquid reagents, but they took special pains to prepare some of them for his special use.

aqueous, alcoholic or hydro-alcoholic menstrua, from this view alone, produce solvents far superior to either alcohol or water, for abstracting an alkaloidal product from certain natural alkaloidal drugs. It may be safely accepted that when acids are used as a part of an abstracting menstruum, the liquid should, as a rule, be decidedly aqueous.

Unless the alkaloid is in small amount, it is detrimental to add to undiluted alcohol any acid excepting acetic acid. The artificial alkaloidal salts of the sour acids are, as a rule, much less soluble in alcohol than are either the natural salts, or the free alkaloid. An error of this description was made in the Pharmacopeia of 1890, where tartaric acid was used in "Abstract of Aconite," the first pharmacal preparation named in that work, as well as in "Fluid Extract of Aconite," in both of which the menstruum used was alcohol.¹⁰ Had the menstruum employed been *diluted* alcohol, the addition of the acid named might have been more rational, although it would have been superfluous, since the natural salt of aconitine is perfectly soluble in either alcohol or diluted alcohol. This error was corrected in the Pharmacopeia in 1890. Acid solvents are theoretically of no value in abstracting substances from plant tissues other than alkaloids and mineral salts, although in practice, it is accepted that diluted acetic acid is desirable in making the preparation of squill known as "Vinegar of Squill."

In this connection, it should be mentioned that while acetic acid may be of immediate benefit as an addition to a menstruum designed for the abstraction of alkaloidal drugs, other considerations may prevent its employment in some other phases of vegetable pharmacy. If this acid menstruum be a part of the final product, the finished preparation will carry the odor of acetic acid. This operates against the employment of any plant remedy, regardless of its therapeutic value, for it leads many physicians to fancy that the preparation has "soured." Such an experience has been, in several instances, that of the writer, label explanations seeming not to be noticed, or perhaps not remembered. In this connection, members of the pharmaceutical profession will perhaps recall that the U. S. P. 1860 formula for making Fluid Extract of Ipecac, demanded acetic acid. This resulted in a torrent of complaints from physicians. A further objection may be that some alkaloidal acetates in water solution lose their energies and "wear out," owing, perhaps, in part, to animalculae,¹¹ or minute organic life actions.

The "sour smell" problem may be overcome by using an odorless vegetable acid. Citric acid, for example, is very sour and of a marked acid nature, but yet it is not identical with lemon juice. As a plant abstracter, a menstruum made by macerating sliced lemon in an appropriate aqueous or hydro-alcoholic liquid, seems preferable to solutions of either citric or tartaric acids. Better still, in some directions, is a menstruum made by macerating sliced stems of garden rhubarb in alcohol, which may be used as a solvent for both alkaloids and alkaloidal drugs, the nature of the drug and its alkaloid establishing the proportion.

The study of acidulated menstrua for alkaloidal abstraction in finished pharma-

¹⁰ In revising the old notes, several opportunities occur for such injected sentences as these, which are self-apparent.—J. U. L.

¹¹ Had these notes been written at a later date, the term "animalculae" would have been replaced by "bacteria," a word not then employed.

ceutical preparations, is well worth the attention of pharmacists; but to the present time it seems to have been much underrated.

When an alkaloid-bearing plant is moistened with an alkaline solution, the natural plant alkaloidal texture is broken, the alkaloid being liberated in the vegetable tissue. It can afterward be more easily abstracted by alcohol, but less readily by water. In this manner, the (insoluble in water) alkaloids of plant structures can be washed with water and also freed from other substances, such as gums, many fats and oils, and water-soluble extractives. If the alkaloid be thus liberated, the powdered drug washed by percolation with water, and then, after drying, the drug be percolated by a menstruum having an affinity for the alkaloid, the alkaloid can be obtained in the cleanest possible manner as concerns percolation. A like process may be applied to other drugs, the use of some appropriate menstruum, such as benzol, benzin, chloroform or ether, being often available in the line of a grease or fat separator. Such as these are stepping agents to pharmaceutical perfection.

It should be borne in mind, however, that the products obtained represent, *not the drug itself*, nor the alkaloidal texture of the drug, but an energetic (alkaloidal) fraction, a product of the drug, more or less modified by the heroic process. The material obtained is a chemically altered, manipulative *product*, and not a naturally abstracted, *textural educt*.¹²

In other cases than with alkaloidal drugs, alkaline menstrea may be used to advantage, but for a different purpose. Some vegetable acids are not as soluble in either water or alcohol as are their salts, and in such cases an alkaline menstruum acts kindly. For example, the official menstruum employed in making Fluid Extract of Senega contains ammonia water (introduced to the U. S. P. 1880), because it has been found that polygalate of ammonia is very soluble, while polygalic acid is much less soluble. This principle can be carried to advantage, elsewhere. Glycyrrhizin is soluble in dilute ammonia, hence an ammoniacal menstruum (introduced U. S. P. 1880) is used in making Fluid Extract Glycyrrhiza.¹³

Still a third point may be made in the direction of alkaline solvents acting on plant tissues. Alkalies render most mineral salts insoluble, or decrease their solubility in alcohol, and if as a preliminary step a drug be percolated with alkaline alcohol, the percolate will be comparatively free from such compounds as calcium sulphate and phosphate.

By a judicious application of the foregoing principles, as yet altogether neglected in very important plant manipulation directions, a field in individualizing galenical pharmaceutical products, not as yet cultivated, may be developed.

In some cases, syrup acts admirably as a menstruum,

Sugar and Glucose. and was at one time recognized as an official solvent.

The U. S. P. formula, 1860, for making Compound Fluid Extract Sarsaparilla contained sugar, and those who have used that formula

¹² Bear in mind that this alkaloidal product is altered from its natural condition.

¹³ In connection with this subject I investigated the making of Extract of Licorice in Smyrna and the Valley of the Meander, Turkey. An attempt was made to liberate the glycyrrhizin, previous to percolation. This extract failed to give satisfaction, likewise, pure glycyrrhizin was rejected by the tobacco manufacturers.—J. U. L.

will remember how admirably (admitting the desirability of such bodies) it held in solution the extractive constituents that neither water, nor water and alcohol, would assimilate and hold in solution. It contained too much alcohol, however, which induced subsequent crystallization of the sugar. In many places a little sugar in a menstruum furnishes an exceptional extractor, and it is not unlikely that in a time to come sugar, now practically abandoned, will be used more frequently as part of the menstruum, for either its solvent or its preservative powers. In this connection should be noted the preservative action of sugar on iodide of iron, lactate of iron, carbonate of iron, and many other bodies, and its solution qualities in the direction of calcium salts.

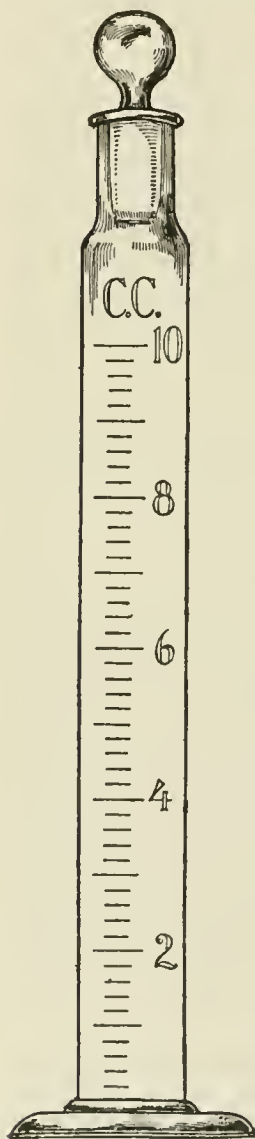


FIG. 3.

purpose, though the results obtained may not be as exact as could be established by the use of apparatus especially devised for the purpose. It is easily cleaned, is not expensive, and it can be readily procured from any dealer in chemical ware.

Citrate of Potassium. Mr. Creuse¹⁴ recently introduced a solution of this substance as a medium for unit-

ing tannates and iron salts, but its further application to organic mixtures as a solvent creator has been overlooked. Although not directly used as a solvent in galenical pharmacy, it is recognized, to a limited extent, as a beneficial admixture with a few finished products. In our opinion, however, its use could be greatly enlarged. For example, the addition of citrate of potassium, or citrate of ammonium, is of value as a component of aqueous or hydro-alcoholic menstrea, in the percolation or maceration of astringent plants, such as colombo and gentian, such drugs parting more readily with their astringents under this influence, the dissolved product remaining in more permanent solution than is the case with purely hydro-alcoholic menstrea. The products have another advantage, for such preparations, if in correct proportion, mix more freely and even mix clearly with iron salts, not forming therewith objectionable black solutions or precipitates. In such directions, many opportunities are offered for compound solvents.

Apparatus. For the series of experiments with solvents, herein presented, a suitable form of apparatus is found in the

ordinary small glass cylinder of 10 Cc. capacity, shown in Fig. 3. This cylinder answers admirably our present pur-

¹⁴ Editor of the *Druggists' Circular*.

Special Forms of Apparatus. Occasionally, where it cannot well be avoided, special apparatus is designated. Our work, however, being restricted (as previously stated) to the field of the pharmacist or laboratory student it is better to sacrifice ultra exactness than to employ processes that render the study impracticable for persons having only ordinary laboratory facilities.

Exceeding Cleanliness Necessary. All utensils, including cylinders and tubes, must be perfectly clean and free from grease, especially when glycerin and water are manipulated. In this object, no care must be spared. Excepting where water is used as one of the solutions, the apparatus must be dry. Cleanliness is necessary in all pharmaceutical manipulations, but in no place, perhaps, is it so necessary that the absence of even *traces* of grease or resin be assured, as in the experiments that follow. Every implement employed must be cleaned after each manipulation. first with distilled water, and then with alcohol, and it should finally be dried in a clean, air desiccator. When liquid petrolatum has been used, chloroform or ether should be employed as a rinse after the alcohol has seemingly cleansed the vessel. These brief generalities seem necessary as preliminary to "a study of solvents," adapted to pharmaceutical problems.

(Part II, later.)

TRADE COMMITTEES OF NATIONAL COUNCIL OF DEFENSE TO BE RE-ORGANIZED.

It is clearly evident that every industry should be represented on the trade committees of the National Council of Defense. At all times, and more so now, it is highly important to the Government that every business be protected against destruction, for the financial support of all industries is essential. Due to the complexity of the drug business, druggists are not only affected by shortage of supplies and increased prices but also by many provisions of the tax measure. The alcohol situation is a recent example and also the limitation of sugar supply. Counsel E. C. Brokmeyer, of the N. A. R. D., has brought the latter inconvenience to the attention of the food administration.

The U. S. Chamber of Commerce in advocating the prompt and representative selection of these war-service committees, emphasizes the following:

"All branches of the industry should be represented on the committee, whether members of a trade organization or not.

"It is important that the committee should include representatives of some of the smaller units of the industry, as well as the larger.

"To be in a position to render efficient service, the committee should not necessarily

be made up of the presidents of the largest units of the business, or of the best known men, but should contain men of recognized ability who have a thorough knowledge of the important details of the industry, particularly costs, specifications and volume of production. Where the industry is widely scattered and different problems exist in different sections, it is important to have the different sections of the country represented, but effort should be made to appoint a committee which can be readily assembled for committee meetings.

"Sub-committees of the important branches of the industry should be appointed to co-operate with the war service committee wherever possible.

"These committees should be ready at all times to meet any of the departments of the government whenever their advice is desired, to discuss questions affecting the industry raised by the war needs of the government. The committees might also, on their own initiative, present to the government questions which call for consideration, and might from time to time suggest on behalf of the industry how orders and material can be distributed to the best advantage, and with the least disturbance to existing or prospective conditions."

IS THE BIOLOGIC STANDARD OF SQUILL AND THE PREPARATIONS THEREOF CORRECT?

BY H. C. COLSON, JR., AND H. ENGELHARDT.

Both fluidextract and tincture of squill when prepared from a selected drug strictly according to the official process very frequently fail to meet the biologic requirements of the U. S. P. IX. This may be due to the manufacturing process in which incomplete extraction of the active principle may occur and to an incorrect biologic standard adopted by the Pharmacopoeia.

The Pharmacopoeia requires that the two preparations be of the same biologic strength as the fluidextract and tincture of digitalis, in other words, that 0.006 Gm. of both fluidextract of digitalis and fluidextract of squill and 0.0006 Gm. of tincture of digitalis and tincture of squill be the minimum systolic (not lethal) dose for each gramme of body weight of frog; but while the dose for fluidextract of digitalis is given with 0.05 mil and that for the tincture with 0.5 mil, 0.1 mil or double the dose is given as the average dose of fluidextract of squill and also 1.0 mil for the tincture. Thus it may be justly assumed that the Pharmacopoeia admits that squill preparations possess only half the strength of the corresponding digitalis preparations. This assumption seems to be correct as can be seen from the following results, which were based on the requirements for the fluidextract that 0.0006 be the minimum systolic dose per gramme of body weight of frog and 0.006 be the corresponding dose for the tincture.

In order to test the biologic strength of various commercial fluidextracts of squill four samples of this preparation made by as many different manufacturers and designated as I, II, III, IV, were examined by the cat method, the one-hour frog and the 12-hour frog methods. The following results expressed in percentage of the official standard were obtained:

	Cat Method.	1-Hour Frog Method.	12-Hour Frog Method.
I.....	42.2 percent	53.3 percent	42.2 percent
II.....	25.4 percent	63.2 percent	33.8 percent
III.....	68.5 percent	200.0 percent	120.5 percent
IV.....	43.7 percent	144.0 percent	52.8 percent

The results obtained by the cat method were based upon a standard of 100 milligrammes of squill for kilo body weight of cat, which corresponds to the standard of fluidextract of digitalis.

The alcohol contents of the different preparations varied from 37 percent to 55 percent; the fluidextracts with a low percentage appeared somewhat viscid while those with a high percentage were rather mobile.

It is our intention to continue the experiments with both the fluidextract and tincture of squill and we hope to report in the near future on the merits of the different assay methods and the value of the official manufacturing process.

RESEARCH LABORATORY OF SHARP & DOHNE, BALTIMORE.

APPARENT DETERIORATION OF DONOVAN'S SOLUTION.*

BY JOSEPH ROSIN.

The U. S. P. IX gives a rubric, and assay methods for the constituents of Solution of Arsenous and Mercuric Iodide. The arsenous iodide is assayed by titration with tenth-normal iodine in the presence of sodium bicarbonate. This method is based on the oxidation of trivalent arsenic to pentavalent by the iodine. It is used for the determination of arsenic trioxide and it was also used in the U. S. P. VIII for assaying arsenous iodide.

Having had occasion to examine a few samples of Donovan's Solution, it was noticed that the arsenous iodide was lower than expected, while the contents of mercuric iodide were fairly well within the limits required by the U. S. P. To account for this discrepancy was a simple matter. Blame the chemical. Yet to a less prejudiced mind other possibilities might suggest themselves; the solutions were not properly prepared, or the arsenic became partly oxidized, the oxidation being aided, perhaps, by the mercuric iodide. Accordingly, a solution of arsenous and mercuric iodide was prepared according to the directions of the U. S. P. with the only difference that the solution was made up to a liter instead of 1000 Gm. as directed in the U. S. P. The arsenous iodide used for this solution tested 99.4 percent by titration with iodine. The mercuric iodide complied with U. S. P. requirements and tested 99.6 percent. Immediately after preparation, 20 mls of the solution were titrated for arsenous iodide by the U. S. P. method. It was then set aside and, at intervals, 20 mil portions withdrawn and assayed for arsenous iodide by the same method. The solution was kept in a dark amber-colored bottle in diffused light. At no time did the solution assume a darker color than it was when freshly prepared—pale yellow.

After a few observations were made with this solution designated I, another solution, II, was prepared with the same materials and tested in the same manner as solution I. 20 mls of these solutions should have required 8.72 mls tenth-normal iodine.

I.		II.	
Age of solution.	Mils $\frac{N}{10}$ iodine consumed by 20 mils of solution.	Age of solution.	Mils $\frac{N}{10}$ iodine consumed by 20 mils of solution.
Freshly prepared.....	8.68	Freshly prepared.....	8.66
1 day.....	8.62	1 day.....	8.62
3 days.....	8.55	7 days.....	8.54
7 days.....	8.52	30 days.....	8.38
20 days.....	8.42	55 days.....	7.90
4 months.....	7.68	70 days.....	7.66
8 months.....	5.06		
1 year 11 days.....	3.04		

These experiments show that the arsenous iodide in this solution gradually undergoes oxidation and is therefore not shown by the U. S. P. assay. The maximum rate of oxidation appears to be within a day or so of its preparation. Among other conditions, the temperature probably also influences the rate of oxidation.

* Read before Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

Since the efficiency of the solution depends on the amount of arsenic it contains and probably not on its state of oxidation, the deterioration is thus only apparent. Yet if a solution several months old, as it is likely to be in a drug store, is examined by the official method it may cause unjust annoyance.

To determine the total arsenic present in Donovan's Solution, irrespective of its state of oxidation, the well-known Gooch-Browning method for determination of arsenic can be used to advantage. In this method all of the arsenic is first reduced to the arsenous condition by potassium iodide and sulphuric acid (= hydriodic acid) which is then titrated with standard iodine. The details of the method as applied to Solutions of Arsenous and Mercuric Iodide are as follows:

Transfer 25 mls of the solution, accurately weighed, into a 500 ml Erlenmeyer flask, add 4 mls concentrated sulphuric acid and 1 Gm. of potassium iodide, dilute to about 100 mls and gently boil until the volume is reduced to about 40 mls or until the solution is of a pale yellow color. Cool, dilute to about 200 mls with water, add a little starch solution and just discharge the blue color by the addition, drop by drop, of tenth-normal sodium thiosulphate. Add to the decolorized mixture 20 percent sodium hydroxide solution until it is slightly alkaline to litmus paper, then make at once slightly acid with diluted sulphuric acid, cool if necessary, then make again alkaline with sodium bicarbonate and titrate with tenth-normal iodine using starch as indicator.

Tested by this method after the last experiments recorded above, 20 mls of each of the solutions consumed 8.68 mls of tenth-normal iodine.

POWERS-WEIGHTMAN-ROSENGARTEN Co.,
PHILADELPHIA, PA.

INFLUENCE OF VISCOSITY ON THE EMULSIFICATION OF OILS.

BY CHARLES H. STOCKING.

The ease with which the emulsification of an oil may be brought about, and the permanence of the finished product depend upon a number of factors. With the view to establishing, if possible, a "viscosity rule" for manufacturing permanent emulsions from fixed oils the author selected a number of the more commonly used oils, made viscosity tests with an Engler Viscosimeter and then emulsified the oils by the Continental Method, producing emulsions varying in strength from 10 to 60 percent.

The classification of the oils according to their viscosity was determined by comparing the rate of outflow under definite conditions (same initial pressure and same temperature) with the rate of outflow of water from the viscosimeter. The quotient of the time of outflow of 200 mls of oil divided by the time of outflow of 200 mls of water at 20° C. is taken as the measure of the viscosity. This quotient is known as the Engler degree.

The following table shows the results of the tests on the oils selected:

VISCOSITY TABLE.

Liquid.	Time of Outflow.	Viscosity.
Water.....	54 seconds	1.
Paraffin Oil No. 1.....	3 minutes 16 seconds	3.63
Paraffin Oil No. 2.....	5 minutes 13.2 seconds	5.80
Linseed Oil.....	6 minutes 43.8 seconds	7.48
Cod Liver Oil.....	8 minutes 23.1 seconds	9.31
Oil Peach Kernel.....	9 minutes 17.8 seconds	10.33
Sesame Oil.....	9 minutes 31.6 seconds	10.58
Castor Oil.....	2 hours 10 minutes	144.44

The oils were emulsified in a mortar by the Continental Method. In all of the emulsions the 1, 2 and 4 rule was employed, using one part of finely powdered acacia with two parts of water and four parts of oil to produce the nucleus or primary emulsion. In every instance the acacia was placed in a perfectly dry mortar and triturated lightly with the oil. The water was then added and trituration continued until emulsification was complete. To produce the desired strength, the nucleus was simply diluted with water and no syrup or other flavoring agent was used. Great care was exercised in making the nucleus in order to insure complete emulsification of the oil before dilution, the diluent (water) being added very slowly and cautiously in every case. The samples were made up to 120 mls each, and were placed in bottles of uniform size and shape and allowed to stand for a period of ten days, at the end of which time they were graded according to quality. The bottles were placed in a row with the one containing the poorest emulsion first in line. Next to this was placed the second quality emulsion, and the others in like order until all the bottles were placed in the row in the order of separation at the end of the given period of time.

In tabulating the results of the emulsification test a number of interesting facts are revealed. The table includes a list of the sixteen emulsions that were made by the author, the viscosity number of each oil, the percentage strength of each emulsion, and the product which was obtained as a result of multiplying the viscosity number by the percent. This product is designated the "Constant."

TABLE OF EMULSIFICATION CONSTANTS.

Grade.	Oil.	Viscosity.	Percentage Strength of Emulsion.	Constant.
1	Paraffin No. 2.....	5.80	10	58.00
2	Linseed.....	7.48	10	74.80
3	Paraffin No. 1.....	3.63	25	90.75
4	Cod Liver.....	9.31	10	93.10
5	Peach Kernel.....	10.33	10	103.30
6	Sesame.....	10.58	10	105.80
7	Paraffin No. 2.....	5.80	25	145.00
8	Paraffin No. 1.....	3.63	50	181.50
9	Castor.....	144.44	10	1444.40
10	Cod Liver.....	9.31	20	186.20
11	Castor.....	144.40	20	2888.80
12	Paraffin No. 2.....	5.80	50	290.00
13	Cod Liver.....	9.31	33.33	310.33
14	Linseed.....	7.48	50	374.00
15	Cod Liver.....	9.31	60	558.60
16	Castor.....	144.44	30	4333.20

Emulsion number 1, a 10 percent emulsion, made from Paraffin Oil having a viscosity of 5.80, showed the greatest degree of separation and was the poorest emulsion of the lot. Emulsion number 2 was also a 10 percent emulsion but was made from an oil having a viscosity of 7.48. This emulsion did not separate quite as much as number 1. Emulsion number 3 graded slightly better than number 2 and was made from an oil having a lower viscosity than either of the first 2 but contained a higher percentage of oil and therefore gave a larger figure in the column headed Constant.

It will be noted that the Constant becomes greater as the quality of the emulsions approaches the ideal. The only emulsion which does not fit into the table, and which may be said to be the exception which "proves the rule," is the one made from Castor Oil which has such an abnormally high viscosity.

All of the emulsions that were made showed improvement in quality as the Constant became larger. Emulsions numbers 4 and 5 are of the same strength but the viscosity of the oil used in number 5 is greater than the viscosity of the oil in number 4, therefore the Constant is greater, and the experiment proved that emulsion number 5 was a better emulsion than number 4.

Emulsions number 13 and number 15 were made from oils having the same viscosity, but vary in strength. Number 15 was a much better emulsion than number 13, and it will be noted that the Constant for number 15 is greater than for number 13.

Further experimentation showed that the adjustment of the percentage with oils of different viscosities to produce Constants that were equal, resulted in emulsions practically identical in quality.

Knowing the viscosity of any oil and the Constant occurring from the successful emulsification of any possible percentage of the oil, the percentage of any other oil necessary to produce an emulsion of similar quality may be determined by dividing the Constant belonging to the oil in the given emulsion by the viscosity of the oil to be emulsified.

For example, having a 20 percent emulsion of Cod Liver Oil with a viscosity of 9.31 and desiring to make an emulsion of Sesame Oil of similar appearance and quality, the percentage of Sesame Oil necessary may be determined by dividing the Constant (186.20) of the 20 percent Cod Liver Oil emulsion by the viscosity of the Sesame Oil (10.58).

$$186.20 \div 10.58 = 17.5.$$

Therefore a 17.5 percent emulsion of Sesame Oil having a viscosity of 10.58 is practically the equivalent in quality to a 20 percent emulsion of Cod Liver Oil having a viscosity of 9.31.

Therefore, under similar conditions of manufacture, emulsions that are similar in quality may be produced from oils of different viscosities if care is exercised in maintaining an equality in the Constants.

SECTION ON PRACTICAL PHARMACY AND DISPENSING, AMERICAN PHARMACEUTICAL ASSOCIATION

A STUDY OF SOME PERCENTAGE SOLUTIONS.*

BY THEODORE J. BRADLEY.

In general, it is impossible to prepare a pre-determined volume of a solution of a definite percentage strength, as we can not know the specific gravity of the solution before it is made. Nevertheless, such solutions are frequently prescribed, and this paper is a report on a study of the problem of preparing them so as to closely approximate the required strength and volume.

Assuming that he knows that "percentage solution" means that the given number of parts by weight of the chemical are contained in 100 parts by weight of the solution, the thoughtless dispenser who has a call for a fluidounce of a percentage solution will most often calculate the required percentage of 480 grains, assuming that this is the weight of the finished solution, which is seldom the case. A more careful worker will calculate the required percentage of 455, or thereabouts, assuming that the finished solution weighs the same as one fluidounce of water, which is seldom quite true. Either of these men will weigh the calculated amount of the chemical, introduce it into a graduate or an ounce bottle and add sufficient of the solvent to make one fluidounce.

Remembering that it is practically impossible to make an absolutely accurate solution of any strength, these methods are sufficiently accurate for weak solutions, say up to 5 percent strength, perhaps even up to 10 percent strength, but such methods will not do for strong solutions, the specific gravities of which are markedly greater than that of water. In various parts of the country, strong solutions of silver nitrate, argyrol, potassium iodide and other chemicals are frequently prescribed, and the druggist who is asked for a 50 percent solution and weighs 240 grains of a chemical, adding enough water to make a fluidounce, will dispense a solution of about 35 percent strength. If the physician calls for a percentage solution, it is not safe or wise to assume that he means a 50 percent weight to volume solution, as in the foregoing examples.

It is entirely correct to dispense percentage solutions entirely by weight, but this is contrary to American custom and not many pharmacists will do it.

An indefinite volume of a correct percentage solution can be made by dissolving as many parts of the chemical as the percentage required in sufficient water to make 100 parts by weight of the solution, and this method can be used to prepare a volume greater than any given number of fluidounces, as in the following example:

To dispense 2 fluidounces of a 25 percent solution of silver nitrate.

$100 - 25 = 75$ parts of water in 100 parts of the solution.

$455 \times 2 = 910$ grains, weight of two fluidounces of water.

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Indianapolis meeting, 1917.

$75 : 25 = 910 : x = 303$ grains, weight of silver nitrate to be added to 2 fluidounces of water.

(Notice that 2 fluidounces of water are to be used, *not* enough water to make 2 fluidounces.)

While this method is accurate, it is wasteful, as the surplus is generally thrown away, or it is impracticable in requiring the preparation of unstable stock solutions.

In studying this question percentage solutions of quinine bisulphate, an alkaloidal salt of average density, and of silver nitrate, a heavy chemical, were made and their respective gravities taken. From the results the following tables were constructed:

PERCENTAGE SOLUTIONS OF QUININE BISULPHATE.

Strength. Percent.	Specific gravity at 25° C.	Weight of 1 fl.- oz. at 25° C. in grains.	Grains of salt in 1 fl.-oz.
0.....	1.000	454.6	0.0
1.....	1.003	456.0	4.6
2.....	1.006	457.3	9.1
3.....	1.008	458.2	13.7
4.....	1.010	459.1	18.4
5.....	1.013	460.5	23.0
6.....	1.016	461.9	27.7
8.....	1.021	464.1	37.1
10.....	1.026	466.4	46.6

PERCENTAGE SOLUTIONS OF SILVER NITRATE.

Strength. Percent.	Specific gravity at 25° C.	Weight of 1 fl.- oz. at 25° C. in grains.	Grains of silver nitrate in 1 fl.-oz.
0.....	1.000	454.6	0.0
1.....	1.009	458.7	4.6
2.....	1.017	462.0	9.2
3.....	1.025	466.0	14.0
4.....	1.034	470.0	18.8
5.....	1.043	474.1	23.7
6.....	1.052	478.2	28.7
8.....	1.071	486.9	39.0
10.....	1.096	498.2	49.8
12.....	1.128	512.8	61.5
15.....	1.162	528.2	79.2
20.....	1.216	552.8	110.6
25.....	1.276	580.1	145.0
50.....	1.688	768.4	393.2

An examination of these tables will show that the common methods of dispensing are approximately correct for both solutions up to about 5 percent and for the alkaloidal solution up to about 10 percent, but that solutions made by such methods are grossly inaccurate for strong solutions of heavy chemicals. The last column of the second table can be used for preparing percentage solutions of silver nitrate, multiplying the quantity for any required number of fluidounces, and adding sufficient distilled water to make the required volume.

This is only a preliminary paper on the subject and it is the writer's intention to extend the tables to include other chemicals prescribed in percentage solutions,

and to endeavor to calculate average weights per fluidounce for solutions of different strengths and of different chemicals. Suggestions for chemicals to be included will be gratefully received.

ABSTRACT OF DISCUSSION.

W. L. SCOVILLE: I think the average physician, at least that is my understanding, if he prescribes a 10 percent solution of a salt, expects to get 48 grains in a fluidounce. That is not percentage in the strict, technical sense of the term, but it is the common equivalent, as I understand it.

CHARLES HOLZHAUER: I have always understood percentage solutions in prescriptions were percentage to volume because the dose becomes a dose by volume and not a dose by weight. I have always held that when a physician wrote for a percentage solution that he meant a given amount of the chemical in a given volume.

T. J. BRADLEY: I anticipated that very question. I am very familiar with the custom that Mr. Scoville and Mr. Holzhauser refer to, but the product is not a percentage solution, and unless we have a written agreement or some other form of protection it is not safe to claim that we dispensed an incorrect solution according to common custom.

W. L. SCOVILLE: It is legal if it is common; common law is legal.

O. F. CLAUS: I am satisfied that most physicians feel just as I do, that when they prescribe a 10 percent solution they want 48 grains in one fluidounce.

P. H. UTECH: I am also re-affirming the statement of Dr. Claus. I think the opinion prevails among physicians that they are getting 48 grains of ingredient.

C. M. SNOW: It seems to me there might be a different view on this from the fact we now have the Harrison Law. How do the narcotic inspectors interpret a four percent solution of cocaine hydrochloride?

L. C. HOPP: I would like to know what the percentage strength of tincture of iodine is. How many can give me the percentage strength of tincture of iodine according to the new Pharmacopoeia?

F. W. NITARDY: Out West we interpret it exactly like Dr. Bradley has illustrated.

G. C. DIEKMAN: I do not think the physicians in different parts of the country have the same views on the subject. In the Pharmacopoeia we have illustrations of these different solutions. When we say percentage solution, without qualification, I think Professor Bradley is entirely right in saying it ought to be parts by weight. Whether the physicians mean that or not, I do not know; but a percentage solution, without qualification, to my mind means parts by weight.

H. V. ARNY: I was interested to hear Mr. Holzhauser give the reason for his conclusions, that the doctors prescribe in volume. We have a great opportunity to adjust this matter because I noticed last year in looking over literature that in a great number of the medical journals the physicians put down "Percent w. v." If we could only persuade the doctors to write the percent with a little "w. v." following the question would be solved. I agree with Mr. Holzhauser that I never would have thought of giving a weight by weight solution when the doctor prescribed a ten percent solution. Of course, this does not detract from the value or quality of the work of Professor Bradley.

T. J. BRADLEY: We have no defense if we dispense a weight to volume solution when a percentage solution is called for in writing. If the physician does not know what he calls for, that is not our fault, and it would not be a defense, if a prescription happened to be written by a physician who meant exactly a correct percentage solution.

W. L. SCOVILLE: Percentage means parts per hundred. That is a definite meaning. There can be parts in volume per hundred, there can be parts by weight in volume per hundred, and there can be parts in weight per hundred, and they are all percentage solutions. I maintain that they are all correct terms.

(A vote was taken by the members which showed about an equal division of views on the subject under discussion.)

JOURNAL OF THE
THE ORIGINAL PACKAGE.*

BY L. E. SAYRE.

The term original package may be ill chosen as it may apply to so many different things. Some few years ago, in Kansas, it was associated principally with intoxicating liquors. It suggests also, what the druggists have opposed, single-handed, the medicine-wagon package, vying with the "How-to-keep-well doctor book." Strange the law permits this itinerant vender practice, but the money power and influence behind it defeats all attempts to obtain legislative control. Original package is also associated in every state with the "Unbroken Package," duly authorized by law, to be secured by food and drug inspectors for examination or for chemical analysis.

But the term is used in this paper to refer to the pharmaceutical package, in carton, wrapper, more or less artistically designed, accompanied with magic advertisement to promote sale. Whether manufactured by him or not the druggist is, tacitly at least, responsible for its claims. Some of these packages, for which a certain proprietorship is claimed, are designed to displace, or compromise with, the unethical patent medicine package.

It is not the purpose of this paper to pass judgment upon these products; let the doctors and other patrons do this. They are, among other things, supposed to show the skill of the compounder, and frequently do show the business acumen of the pharmacist.

Commenting upon these hard-to-define packages, the writer has observed, as director of the state drug laboratory, created for the administration of the Food and Drugs Law, that they are, in the first place, rapidly on the increase, and, what is worthy of notice, are curtailing and detracting from the practice of legitimate pharmacy and dispensing. Prescribing is becoming, indirectly thereby, a lost art. There is nothing new in this, but it should be often repeated, that as physicians and pharmacists alike patronize these ready-to-take (or administer) preparations, they become less ethical, less skilful and less professional, and they proportionately handicap pharmaceutical and medical progress. It may seem to an outsider a very easy matter for the pharmacist to package a remedy that will fit every possible case, but a well-trained medical practitioner knows better. His treatment is individual, no two cases of the same class are exactly alike. No one knows this better than the dispenser who is fortunate enough to have the confidence of the busy practitioner.

In the second place, they interfere with the propaganda for popularizing the United States Pharmacopoeia and National Formulary preparations as well as others approved by American medicine. This is a criticism and a warning of those who are interested in the commercial welfare of the pharmacist. The editor of the *N. A. R. D. Journal* calls attention to the fact that the actual work in this propaganda movement is lagging, shown by the interest displayed by pharmacists generally and by state and local associations particularly. This propaganda work should be done intelligently. To give reliable information concerning drugs of

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Indianapolis meeting, 1917.

merit requires study and an intimate acquaintance with physicians' supplies and needs in drugs and their experience with them. The pharmacist's field has always lain in this field of compilation as it were. His point of view is different from that of the physician, or a group of physicians, who may call certain drugs "irrational," "superfluous," "antiquated," "inefficient," etc. He ignores disagreement and contradictions of the doctors, takes the dispenser's point of view, naturally, that of tabulation of data from disagreeing doctors.

Dr. SaJous, in the introduction to his excellent book on "Organotherapy", quotes the words of the president of a prominent British society, Dr. A. H. Bampton, who said, at one of the medical meetings: "If any daring member has introduced a subject on medical treatment, it has been with an apologetic air and humble mien, well knowing that if his remarks had any reference to the utility of drugs in the treatment of diseases they would be subjected to good-humored banter, and received by those sitting in the seat of the scornful with amused incredulity."

Dr. SaJous remarks, in his preface, that "It was his intention to become a helpmate to the practitioner in his efforts to relieve suffering, and to assist the investigator by correlating facts."

This points to the highest ideal, worthy of the aim of the pharmacist. If his efforts are ridiculed by the drugless therapist, the only thing he can do is to shake the dust from his feet and depart. If, however, the mobile theories of the physician should decree some of these days hereafter, that the utility of drugs must be considered a superstition—a disease of the imagination; the doctor, the therapist, the pharmacologist, the pharmacist, the United States Pharmacopoeia and the National Formulary, as the original package, will be relegated to the scrap heap.

By legislative enactment it seems even possible to shorten the way to "Tipperary," and why should it not be possible for medical legislators to knock out, over night, drug utility and efficiency? Until that time, perhaps, the pharmacist, it is hoped, may be permitted to promulgate his compilations of facts regarding remedial agents, as gleaned from non-secret medical practice, and, beside, possibly, do a little thinking for himself.

But this is somewhat of a digression!

The more important point of this paper—the third one, and last—concerning the original package, is the one that suggested this subject for this Section on dispensing. In our report in another Section at this meeting, the writer referred to the clause in the rules and regulations of the Food and Drugs Law now in force in Kansas, which refers mainly to the so-called original package. This clause reads as follows:

"Proprietary medical preparations and similar medical products are required to conform in composition to the freshly prepared, non-deteriorated article, and to conform to the claims made for the preparation as to therapeutic properties, quality and strength."

During the last two years the assistant chief of drug inspection in Kansas (L. A. Congdon) has been carrying on what he calls a deteriorated drug campaign. The writer asked this inspector for a report of this campaign. His reply was that during the year from July 1, 1915, to July 1, 1916, he had found 8,673 bottles and packages of proprietary preparations, including patent medicines, unsalable

and, therefore, condemned. During the succeeding year (1916 to 1917) he had found, belonging to the same class, 2,073 bottles and packages.

Such a surprising report induced the writer to ask by what process such a condemnation had been made, as the articles had not all passed the inspection of the laboratory. His reply I quote: "Certain materials did not come to the laboratory, because upon their faces they were found to be deteriorated or were misbranded.

"They were merely orphans, so to speak, or stock which could not be sold, or stock which, if sold, would be illegal under our laws to sell, according to the labels, on such proprietary medicines. Some of the packages of proprietary medicines were wormy; others disintegrated, or crushed, etc.

"I might mention that such medicines as cough syrups, in which chloroform is stated to be one of the ingredients, would not be legal if the cork was more or less porous. I did not pass on any of these medicines myself, but they were passed upon by the inspectors themselves. In other words, they were very plain violations, which could be seen with the naked eye. They were disposed of by the proprietor of the drug store by his own free will and accord, when he was shown that they did not comply with the law."

Mr. Congdon further stated: "On the face of these articles they were shown to be misbranded or deteriorated and the proprietor agreed with the inspector."

Herein lies the main objection to the so-called original package—deterioration. I have myself frequently observed that some of the patent medicines, having an attractive and salable exterior, when this exterior was removed, to show striking evidence of deterioration-disintegration showing in the ropy, flocculent or granular precipitate.

This observation has led me to the conclusion that all package medicine in bottle containers should be placed in cartons, not in wrappers, so that the liquid contents may be easily examined by inspectors. Furthermore, it is somewhat humiliating to our vocation that even a minority, representing it, are seemingly unable to do their own inspecting—not expert enough, or careful enough, to eliminate for themselves sub-standard material. The whole profession has to suffer thereby because, like the weakest link in the chain, it is not stronger than its weakest member. Indeed, this is the day when one of the important functions of the pharmacist is to be an authority on the agents he dispenses, to be an inspector. The demand of the physician, the public, or the pharmacist's patrons, requires that the dispenser should be at least such an authority. If he performs in full measure the service which the present time demands, he must awake to such responsibility or be relegated to the lower ranks of merchant bartering in package medicines, the knowledge of the contents of which he has as little as the dealer who sells canned goods.

SECTION ON COMMERCIAL INTERESTS, AMERICAN PHARMACEUTICAL ASSOCIATION

VARIOUS PHASES OF DRUG STORE PUBLICITY.*

BY H. S. NOEL.

Whenever I hear of a man who does not believe in advertising I am reminded of the story of the jury that deliberated for a long time in reaching a decision. When dinner time came around the officer of the court stuck his head in the door of the jury room and asked if he should order twelve dinners. The foreman turned in his chair and remarked: "No, make it eleven dinners and a bale of hay, we have an ass in here."

Our great government has set an example for us in preparedness, even if it is of an eleventh-hour variety. Business is undergoing a tremendous transformation, and, in the parlance of the newspaper cartoonist, "The worst is yet to come."

To bring the issue home to our own doors we need only consider the effect of the war upon the drug business up to the present time and reflect upon how it has affected us individually as retail merchants. No matter how small a business may be, the man at the head of it should be made to feel the responsibility of maintaining his share of the burdens that collectively bear heavily on the commercial affairs of our country. The drug business is one of complex character. It has many phases peculiar to itself. Its problems are in many respects unlike those of any other commercial or professional calling, and the conditions that are bound to confront us when the war is over, call for business "preparedness," a "house in order," coöperation of individuals and loyalty of associations. Only by the closest of affiliations can the drug business hope to emerge with the fewest scars of the conflict.

Of the many contributing factors to business success and "preparedness" which have to do with retail merchandising, I know of no more important element than the right kind of publicity. I do not mean by that, necessarily, the use of a single line of newspaper space or printers' ink. Too many of us are prone to connect the word advertising with copy and art. Proper publicity for the drug store in the minds of many business men, at once suggests the spending of money and the printed word. These things are all right in their places, but it is far more important that we should know what to do in advance of bursting into print, and it is much more essential to be familiar with the ways of building business that do not call for the expenditure of money.

I believe in all advertising that accomplishes results, but I do not believe in advising a merchant to spend money for advertising until he has first made use of the countless opportunities that are at hand to secure fine publicity with very little expenditure.

To advertise properly and most successfully, a definite plan or system should

* Read before Section on Commercial Interests, A. Ph. A., Indianapolis meeting, 1917.

be followed. Like every other well-organized effort there should be a beginning. A great many would-be advertisers are like the farmer who wanted a ride on a train. He stepped up to the ticket window and thrust a five dollar bill at the agent.

"Where to?" asked the ticket man.

"I don't give a gosh darn," said the rube, "I want a ride." Of course the agent took the money and gave the ruralist a round-trip ticket that cost five dollars. A great many druggists who are willing and anxious to increase the volume of business are like the rube who wanted a ride on the train. They go at advertising with a hazy idea of the proper method of procedure and without coördinated effort. The results are disappointing, and advertising receives the blame.

The handicap that retards the advancement of so many retail stores is not so much the lack of trade or money as it is the lack of men of proper executive and managerial ability. It is useless to expect results from advertising in a store where the proprietor is careless in his accounting methods, seldom takes an inventory, sells goods for two prices, and is overstocked in some lines and always out of others. Advertising is bound to fall flat when there is insufficient and inefficient help to take care of the customers who desire to trade there. I recently visited a store in New England that boasts of careful attention to details and prompt service. A woman entered the store with a prescription from a highly ethical and particular physician. Two soda-fountain boys were scuffling in the front part of the store; the prescription clerk approached the woman, with whom I was acquainted, in his shirt sleeves, and with a cigar in his mouth. Nor did he remove the cigar. While the woman was waiting for her prescription to be filled I inquired for her health. She told me that she had been under the doctor's care for some time. She believed fully in her physician but told me that she always hated to bring a prescription to this store. The reason was evident enough.

The proprietor of the store is a capable man and his intentions are good. While I was in the store he was selling a kodak to a young man. He was using good selling arguments and was agreeable and polite. I noticed his attire. He wore a white coat carefully buttoned and I have no doubt that his training in the drug business had been of the right sort; but he was a poor executive. One could tell that at a glance. The discipline in that store is very lax. The town in which this store is located is comparatively small. The sales reach \$4000 each month. The proprietor of that store is pleased with himself and thinks he is doing well, but I maintain that he is not getting the most out of business and no druggist should be satisfied until he is doing that.

Not infrequently you will find a type of proprietor who employs good clerks but lets them run the business. While, as owner of the store, he is always present, he will be found doing the work of an eight-dollar-a-week bookkeeper or fussing around with an experiment in the cellar, while the customer wonders if the clerk is the man who runs the store. People like to see the proprietor when they come in to trade.

My attention was recently called to an incident that occurred in a store in Galveston, Texas, owned by a Mr. Schott. This store sold for \$100,000 and is one of the largest retail drug shops in the United States. An old lady came into the store one day—an humble creature. She wanted to make a purchase. The clerk

approached her politely. She asked for Mr. Schott. It happened that he was very busy but the old woman said she would wait for him. She waited a long time. Finally Mr. Schott approached and apologized for having kept her waiting. He asked what he could do for her. It seemed that the woman wanted five cents worth of castor oil. She said she knew others could have gotten it for her but she felt certain that if Mr. Schott put it up himself, it would be sure to be good. What a small incident that is and yet what a number of lessons are to be drawn from it.

The very nature of the drug business, with its long hours and petty details, tends to bring about a thing that is greatly to be feared and studiously to be avoided—that is—crystallization. Just as soon as a druggist reaches that point in business where he is content to let the existing order of things continue, dangerous competition is sure to be just that much nearer to him.

I recently suggested to a druggist a method of advertising that would cost twenty-five cents a day. By means of it he would be able to greatly increase his volume of business with no increase in overhead expense. Here is the way he met my suggestion. "Twenty-five cents a day—three hundred and sixty-five days in the year. Let's see that's over ninety dollars a year—nearly eight dollars a month. No—I wouldn't do it. I've been here twenty-five years and I've always made a good living. I guess I'll let well enough alone."

By way of contrast a neighborhood druggist, who was anxious to increase business, considered sending a letter to his trade. I advised a series of three letters. He asked the cost. I figured roughly that it would amount to \$125.00. This druggist reached into his pocket and paid over the money. Three letters were sent out to a thousand names. In a year's time he credits the returns from the letters at \$2200.00.

General Sherman was offered corner lots in San Francisco in 1848 for \$16.00 apiece. He was afraid to invest. In business life there is a countless unfolding of opportunities for the men who have the ambition and the courage to tackle them. There is no substitute for perseverance. The world's history abounds in splendid examples of its possibilities. Perseverance led Columbus to America; it was push on the part of the Wesleys that led to regenerated religious life in England. Napoleon's career is an example of indefatigable energy.

There is no great credit due to a man who keeps up. It is only by making use of our early training as a stepping stone that we can hope to advance. It's the man who is just ahead of the business procession who draws the trade—and the money.

Every detail of store management that makes your place of business a more desirable one in which to trade, is advertising that pays; and no advertising will yield the maximum results unless the basic principles back of the business are sound.

Just consider for a moment the importance of the personality of a drug-store proprietor as an advertising asset. A writer recently made the statement that personality is that intensive variety of advertising that deals with small acreages but more carefully and scientifically fills the acres that it reaches. Haven't you seen the type of man that makes you seem welcome on entering his store? He greets you with a smile. On entering his place of business you are made to feel that he is your friend. He possesses the charm of simple kindness. To him busi-

ness is a pleasure and he radiates a good cheer that is contagious. The chances are that the clerks in that store are imbued with the spirit of their employer and that ninety percent of the customers like the cheer of the store and carry it away with them. That is good advertising of the intensive and costless variety.

Having what people want is a good form of publicity. Showing a painstaking desire to get an article for a customer, if it is not in stock, and making every effort to render the service with as much promptitude and as little trouble to the customer as possible, is advertising that brings fine returns.

The importance of tact can not be overestimated. Tact is a good salesman's most valuable asset. Superior knowledge of the goods one is selling may convince the customer, but it is tact that closes the sale. The appeal of tact is to the sensibilities, that of argument to the intellect. Watch the street faker with his line of tactful talk and the truth of this statement will force itself upon you. Tact has turned many a disgruntled customer into a satisfied one; the lack of it has cost many stores the loss of good accounts; therefore, tact is an advertising medium not to be despised.

The appearance of a store is good advertising and that of the proprietor and clerks is also. It is useless to expect returns from advertising of any kind if the store service and surroundings do not substantiate the claims made for it.

Service is advertising even though it is sometimes called by another name. Half-hearted service, however, is a poorer form of publicity than none at all. Service without wholeheartedness, without simple kindness, is useless. It profits a merchant little to pay ten dollars for newspaper space advertising prompt, courteous service; a place where one likes to trade, etc., etc., and then to kick like the devil at changing a five dollar bill, but yet change it just the same. That's the strange part of it. Or, as I heard a druggist say one time to a man who had asked for change twice within an hour: "What do you think we are here—bankers?" Yet the man went out with his change.

Service is just as much a matter of attitude as it is of action. When the impossible is asked why not be pleasant about it? No one appreciates favors given grudgingly, nor bad manners in doing acts of kindness. In order to make service valuable as a publicity medium it must be sufficiently well sugar coated with kindness to remove all bitterness.

As an advertisement, windows pay good returns and they cost a lot of money whether they are used or not; therefore the merchant who is alive to his opportunities, will carefully plan his window displays in order to get the best returns from his investment. He will study the needs of the people who pass his store. The idea of using windows in an endeavor to unload the result of poor buying judgment on the passing public, hurts the store proprietor more than anyone else.

Two weeks ago I visited a drug store in a small town in Vermont. In the window, as I remember it, were various kinds of soaps, two kinds of fly paper, shampooing liquid, straw hats, a wooden box filled with shoes, tooth paste, cold cream, hair brushes, combs, and at least a half dozen other kinds of merchandise. A sign in chalk over the display, which was made on the flat base of the window, read: *SUMMER NEEDS*. I wished very much that I could have added to the sign the words: "*SOME ARE NOT*."

The value of a man's name over a drug store is an advertising asset. As much has been said about this in the drug journals, I will not venture into details, but why it is that a druggist will give any other name more prominence than his own in connection with a business that belongs to him, is beyond understanding. Many druggists subordinate their own names in favor of coöperative organizations. They do these things despite the fact that it is well known that certain stores have sold for enormous sums on account of the prestige carried by the proprietor's name. Your name can not be taken from you. It is a firm foundation upon which to build.

A good slogan used in connection with the proprietor's name is good advertising and it becomes more valuable as time goes on if it is the right kind of a slogan. But such a slogan is not to be picked up in a minute. Its selection should be given careful thought and study. Commonplace expressions such as "Prescriptions a Specialty"—"The Home of Pure Drugs"—"Cut Price Druggist" and "Quality Store" are examples of slogans that are to be avoided. The best kind of a selling slogan is one that is peculiarly adapted to one particular store. It should be original, forceful, brief, true and to the point.

Mail-order competition is one of the worst evils that many retailers have to combat. The growth of mail-order houses has been remarkable and the small-town merchant has been the one to suffer most. In other lines of business merchants have found advertising the best weapon of defense against mail-order houses, and in many cases have successfully combated the mail-order evil.

Professor Paul Nystrom in his book, "The Economics of Retailing," says that it is an open question whether the mail-order system of distribution is more economical than the wholesaler, retailer, consumer method. He further states that the mail-order house has three distinct disadvantages for the consumer: (1) interest lost on money paid in advance, (2) delay in receiving and exchanging goods; and (3) impossibility of examining goods previous to purchasing.

It is up to every retailer who suffers from mail-order competition to analyze his service, his business methods and his stock and make every endeavor to stem the tide of this sort of competition.

An advertising campaign to educate the local customers on the advantages of buying at home has proven quite effective. An Indiana small-town grocer who lost considerable business to mail-order houses, suddenly began to realize that his customers were dealing away from home. His first step was to secure catalogs of the mail-order houses. He studied them carefully. In order to meet competition on one item, which I will cite merely as an example, he was obliged to buy starch by the barrel and have cartons specially made. Even then he was able to sell the starch at a nice profit and meet the mail-order house quotation.

A mail-order house catalog will furnish the finest kind of "boiled-to-the-bone" selling arguments. If I were a small-town druggist to-day I would make it a point to find out who in my town was buying from a mail-order house and I would plan a campaign of letters, advertising matter and sales argument calculated to educate these customers to the advantage of trading at home. I believe I would do these things even if I had to bribe the freight agent to keep me posted as to who the mail-order buyers were.

Advertising to encourage buying at home is always easier in a town where

the community spirit is good, and in some localities a campaign on the advantages of keeping money at home will be found of big assistance.

The basic idea back of all publicity is to encourage sales, create demand and keep your place of business before the trade as much as possible—always in a favorable light.

Outside of some of the very large stores, salesmanship is one of the weakest points, to my mind, in the average retail store. There is room for great improvement in selling efficiency, and druggists who are ambitious to get the most out of business will do well to coach their clerks on effective talking points for both new and old goods. Manufacturers are nearly always willing to supply talking points for their products, and it is to their interest to do so.

Within the past few years national advertisers have assisted in creating a demand for their products. In some respects this has lessened the need of salesmanship and on the other hand it has greatly assisted in shortening the time necessary to complete a sale and has resulted in larger sales. Dealer helps should be used whenever they are available. It is a regrettable fact that great sums of money are spent on folders, booklets, blotters, and the like, and the effectiveness of the material is lost by being wasted after it reaches the retailer. In every way possible the retailer who is desirous of getting the most out of his business will make use of dealer helps and connect his store with national advertising.

I recently asked a down-town drug clerk for a mild cigar, Havana filler, Sumatra wrapper. The clerk looked at me as though I were a curiosity and handed out a Porto-Rican smoke. It wasn't what I wanted. Had I stepped into a United Cigar Store I would have had no difficulty in securing what I desired, because the clerks in these stores know their goods and how to sell them. Druggists as a class can't seem to realize the importance of such an effective thing as salesmanship and knowledge of the goods so essential to it. How many clerks or druggists either can tell you the difference between various grades of olive oil or between a California oil and an Italian oil?

One of the best sources of information is the trade journals and yet the great majority of druggists seldom do more than glance through them and will give as a reason for not reading them, that long hours and press of business make it impossible. Then there is the type of merchant who believes that he knows all the selling stunts and advertising methods published in the drug magazines. He is usually a narrow man and, more often than not, is among the small merchants of his town. The progressive type of retailer is never too busy to welcome a new idea, and he is quick to adopt it if it fits his business. He is the type who surrounds himself with capable employees and is always a step ahead in the business procession; he is the type whom his fellow merchants and townsmen call "lucky."

I would rather spend five years in establishing myself as a dealer who sold merchandise of quality and rendered prompt courteous service, than to slash prices and fill my store with bargain hunters every day. The druggists who compete with one another in cutting prices are like the two children in the story who vied with one another in leaning out of a second story window. The "kid" that won broke his neck. The druggist who wins out by cutting prices is playing with a fickle public that will desert him just as soon as his nearest competitor cuts his prices a half cent lower. The druggist who firmly establishes himself as a reliable

merchant and lives up to an ideal of service and quality will have customers who will stick to him through thick and thin.

It is a mistake to believe that advertising of any kind will always bring results immediately. We have only to look around us to prove the cumulative value of advertising. When a druggist decides to erect a new building he waits patiently while the building is being erected brick by brick. Ask him to make a change in his business methods or to build a reputation and a business by use of advertising and he expects results of the kind that followed the rubbing of Aladdin's lamp.

I do not believe that any man, however good his advertising, can hope to build a permanent success without business integrity, good old-fashioned honesty, patience and truth. It took years of advertising to educate the public to the purity of Ivory Soap. "The watch that made the dollar famous" did not spring into popularity over night. The public read of it, heard of it and talked of it, long before it believed that it was a good watch for the money. It is only by constant iteration that your message will finally come to be believed.

In conclusion let me urge upon you to consider the thought contained in the words of Benjamin Franklin: "Drive your business or it will drive you." Success is not for the faint hearted. Let your start in advertising be as humble as it may, see that your foundation is firm. Begin with the little things nearest you, plan carefully and keep at it everlastingly.

PHARMACEUTICAL SERVICE IN THE FRENCH ARMY.*

BY GEORGE M. BERINGER.

The establishment of a properly organized and well-equipped pharmaceutical corps as a branch of the Medical Department of the United States Army is urged as a national necessity by those who are acquainted with the unscientific methods under which potent drugs are controlled and the dispensing of medicines is carried on in our army. In this respect, we can profit by learning the experiences and studying the methods of the foreign armies, those of our allies and the enemy alike, for supplying the medical needs and providing for the hygienic care of their soldiers.

In anticipation of the necessities of war, both Germany and France in recent years again reorganized their respective army pharmaceutical services and greatly extended the duties assigned to the pharmaceutical corps. Not only are these corps charged with the duty of providing the medical and surgical supplies by purchase or manufacture and with the care, distribution and dispensing thereof, but they likewise make the sanitary, clinical and chemical examination for the armies and, in reality, these pharmacists are the chemists of the military service as well as of the sanitary service. Very properly courses of special scientific study and training have been established for the education of the personnel of these corps and, under the regulations, the military pharmacy student must apply himself to the studies and in the required examinations demonstrate his fitness for the service.

* Read at the Joint Meeting of the Philadelphia Branch of the American Pharmaceutical Association and the National Pharmaceutical Service Association, October 8, 1917.

These rival countries in the existing war have exhibited to the world the value of modern pharmaceutical and chemical service to the army:

The French pharmaceutical military service has rendered to that country, during this war, services that are inestimable, whether considered solely from the monetary value to their nation or as professional and humanitarian benefits. The Pharmaceutical Corps has been publicly commended "as having proved to be one of the most effective, active and intelligent corps of the French Army."

The organization and the duties performed by the French Army Pharmaceutical Corps will serve as a model for the proposed pharmaceutical corps of the United States Army. The War Department is now actively engaged in organizing an American army in accordance with the plan of the French army organization and our forming units are being drilled according to the French army methods. Would it not be very appropriate at this time for the War Department to likewise adopt our ally's scheme of pharmaceutical corps cadre?

HISTORY OF THE FRENCH PHARMACEUTICAL CORPS.

The history of the pharmaceutical corps of the French army, the services performed therein by many eminent pharmacists, the contentions necessary to maintain its standing and to overcome the jealousies of other branches of the sanitary service, the duties assigned from time to time, and the present status and greatly extended usefulness of the service, are interesting subjects of study which can here be given only a cursory consideration.

The writer is very largely indebted for the facts presented in this paper to M. Georges, Chief Pharmacist, Military Hospital for Instruction Val de Grace; L. Guignard, Honorary Director École Supérieure de Pharmacie, Paris; Captain Carl Boyd, Military Attaché, American Embassy, Paris; and above all to Léon Varenne, Phar.D., Pharmacist Major of the Army, for an autograph copy of his book on the Pharmaceutical Service in the Army:

"Organisation et Fonctionnement du Service Pharmaceutique de L'Armée" by Léon Varenne, Docteur en Pharmacie—Pharmacien Major de L'Armée. Preface by Dr. M. le Professeur P. Caseneuve Sénateur du Rhone.

The history of the French military pharmacists can be traced back to the time of Richelieu. In 1630, the regulations of the principal army hospital defined the personnel of the hospital staff and the duties of the physician, surgeon and pharmacist.

The law of December 20, 1718, instituted officially the sanitary service and regulated precisely for the first time the duties of the hospital corps. The regulations of January 1, 1747, made provision for the formulas of the pharmacopoeia of the Royal military hospitals with a list of drugs to be included in their supplies and further provided for commissions for the officers to be issued by the Secretary of War.

The acts of 1774, 1775 and 1777 further organized the sanitary service in the districts of Strasburg, Metz and Lille, with the grades of professors of medicine, surgeon-major and apothecary-major, the commissions for the officers of the Sanitary Council being, respectively, physician-inspector, surgeon-inspector and apothecary-major. Even at that early date the apothecary-major was charged with the duties of analyzing the remedies and providing all medicines.

In 1788, important modifications were made in the organization of the sanitary

service. A sanitary council was formed consisting of six superior officers of the sanitary service; two physicians, two surgeons and two pharmacists (Bayen and Parmentier). At the same time, the number of the military hospitals was increased, the service in the regimental infirmaries extended and necessarily the duties of the physicians and pharmacists considerably augmented.

It is admitted that, at this period, medical influence was in the ascendancy and, owing to the excessive reduction in the number of pharmacists and duties that did not bring them in such close contact with the army, pharmacy was subordinated to medicine. It was the laboratory of Bayen, from which came, in 1765, the memorable analyses of the springs of Bagnères de Luchon and, in 1774, the essay on experiments with the mercurial precipitates, that overthrew the doctrine of Stahl and started chemistry along new lines, that prepared the way for the emancipation of pharmacy. Subsequently Medical Inspector Bégin, in his "Studies of the Military Sanitary Service," declared "that the sciences of medicine and pharmacy were established on a perfect equality, lending mutual support and coöperating together while proceeding separately, nevertheless, in all the services which they render to humanity and in extending the domain of knowledge, they are equally honorable."

The situation created by the law of 1788 was fortunately modified by subsequent regulations and decrees which ameliorated the situation materially and hastened a reorganization of the sanitary service in 1796. The law enacted that year suppressed the Sanitary Council then in existence and their functions and powers were assigned to six inspector generals; two physicians, two surgeons and two pharmacists (the same Bayen and Parmentier), with equal authority over the three subdivisions of the sanitary service. The right of honorable distinction had already been accorded to all these branches of service by the regulations promulgated in 1792 and so the absolute equality of the three professions was established.

In 1803, an attempt was made to reduce the standing of medicine and pharmacy and advance that of surgery; the proposition being to have six inspector generals, three to be surgeons, two physicians and only one pharmacist. Subsequently the war department reduced the number of hospitals and neglected the sanitary service to a point where Talleyrand in his speech to the French armies on April 2, 1814, denounced a policy that expected the soldiers of France "to withstand the fire of the enemy without having subsistence and without hospitals."

During this period the sanitary cadres were very variable, depending largely upon the needs of the army in time of peace or in time of war. In 1812, the effective military pharmacists numbered 1,011 in the total of 5,112 officers of the sanitary service. In September 1824, the personnel of the entire sanitary service numbered only 917 officers, classified as: surgeons, 711; physicians, 59; and pharmacists, 147. By the act of August 12, 1826, this effective was again modified, the number of physicians and surgeons was increased, and the number of pharmacists decreased. This act, however, established the grade of pharmacist aide-major.

In 1852, the sanitary service of the army was arranged into two parallel and independent corps, medicine and pharmacy. The modern history and development of these corps can be stated to have been then inaugurated as a basis for fusion had been established and there was at least a temporary cessation of the rivalry and jealousies that had so long existed.

In 1860, Marshal Vaillant, Minister of War, decreed that the two corps, medicine and pharmacy, should be of equal importance, irrespective of their total effectives. By this decree the pharmaceutical cadre consisted of 159 officers with the following grades:

- 1 Pharmacist-Inspector, with grade of General of a brigade.
- 5 Pharmacist Principals, 1st Class, with grade of Colonel.
- 5 Pharmacist Principals, 2d Class, with grade of Lieutenant-Colonel.
- 36 Pharmacist-Majors, 1st Class, with grade of Chief of a battalion.
- 42 Pharmacist-Majors, 2nd Class, with grade of Captain.
- 55 Pharmacist Aide-Majors, 1st Class, with grade of Lieutenant.
- 15 Pharmacist Aide-Majors, 2nd Class, with grade of Second-Lieutenant.

The shortcomings of the sanitary service during the Franco-German war were severely criticized and a strong demand made for its reorganization. The medical corps demanded exclusive direction and autonomy over the service and that the pharmaceutical corps should become the subordinate and in consequence a systematic reduction of the authority of the military pharmacists. The eminent chemist, J. B. Dumas, gave the weight of his scientific authority in favor of placing the direction of the sanitary service exclusively under the medical and consequently the subordination of the military and administrative influence of pharmacy. The medical inspector-general, Legouest, while ardently advocating the preëminence of the medical over the pharmaceutical, declared that "the project must respect the cadre and rank of the military pharmacists and that there must be preserved to pharmacy all its rank, its appropriation, the conditions of advancement and the various functions of its proper service."

In 1882, a new law was promulgated for the administration of the army and with the amendment thereto of 1889, defined the authority of the military sanitary service and to the present time this governs the duties of the service. This law for the administration of the army divided the military service into five branches, the sanitary service being the last specified. Prior to this time, the military sanitary corps was part of the commissary department. It now became a new autonomy comprising the military physicians and pharmacists under one proper hierarchy and with the grades corresponding to those of the military hierarchy and the officers of the sanitary service enjoying all the advantages of other officers.

Under this law the pharmaceutical cadre is composed of:

- 1 Pharmacist Inspector, with rank of General of a brigade.
- 4 Pharmacist Principals, 1st Class, with rank of Colonel.
- 5 Pharmacist Principals, 2d Class, with rank of Lieutenant-Colonel.
- 30 Pharmacist-Majors, 1st Class, with rank of Chief of a battalion.
- 45 Pharmacist-Majors, 2d Class, with rank of Captain.
- 20 Pharmacist Aide-Majors, 1st Class, with rank of Lieutenant.
- 10 Pharmacist Aide-Majors, 2nd Class, with rank of Second-Lieutenant.

This total of 115 was soon seen to be insufficient, as was shown by the sanitary service in Morocco. When the necessity arose, the reserve pharmaceutical corps was to be mobilized. In 1914, this reserve force numbered 1,229 and, in the territorial army, 1,020, a total reserve corps of 2,249.

QUALIFICATION AND SERVICE OF FRENCH MILITARY PHARMACISTS.

The pharmaceutical corps in the French army is recruited in part from students of pharmacy who enter the army sanitary service and continue their studies while in the army, and in part from pharmacist graduates who hold first-class diplomas.

The undergraduate who enlists in this service must establish that he is a citizen of France either by birth or by naturalization, that he is over 18 years and less than 23 years of age, must have passed the preliminary scholastic examination and have his fitness for military service certified to. As a student he is allowed an annual pension, while attending the school of applied medicine and pharmacy, of 1,000 francs which, it is stipulated, is allowed on condition that he complies with the rules of the school and passes the examination for admission to the service, otherwise it must be refunded to the war department.

The examination for the first year studies of the military pharmacy student covers a composition on some question of physics or elementary inorganic chemistry; the preparation of one or more medicinal formulas included in the Codex, with an examination on these preparations; the compounding of prescriptions; the determination of fifteen plants or parts of plants pertaining to materia medica and ten chemical medicaments or galenicals and examinations on these.

The examination at the end of the second year includes the following: a composition upon an inorganic or an organic chemical question; examinations in physics; organic chemistry; mineral poisons; galenical pharmacy; botany (natural families of phanerogams); and the natural history of medicaments. The jury composed of the Pharmacist-Inspector (as president) or, in his absence, a Pharmacist Principal of the first class, a professor of chemistry and toxicology of a School of applied Military Sanitary Service and a Pharmacist-Major, 1st Class, classify the students according to the merits of their work and certify to the ministry the list of candidates eligible for appointment to the service.

Pharmacists possessing first-class diplomas may enter the pharmaceutical corps from civil life with a grade of Pharmacist Aide-Major, 2d Class. Such candidate, however, must first comply with the following conditions: be a citizen of France, either by birth or by naturalization, be not over 28 years of age; his aptitude for the service must be certified to by an army physician of not less grade than Physician-Major, 2d Class, enlist for not less than six years in the active sanitary service of the army and accept appointment to the grade of Aide-Major, 2d Class, and in addition must pass an examination to determine his scientific and professional knowledge.

The candidate meeting these rather rigorous requirements for enlistment in this corps with the grade of Aide-Major, 2d Class, receives an indemnity of 575 francs to provide for his first equipment with a condition that this must be refunded if he quits the service before completing his sexannual engagement. The pharmacists are expected to continue their studies and to obtain promotion to higher grade a successful examination is necessary. Each advancement in the corps is dependent upon a minimum number of years of effective service and seniority of service is presumably respected in the advance appointment.

A Pharmacist-Major, 2d Class, is expected to serve not less than two years before advancement.

A Pharmacist-Major, 1st Class, is expected to serve at least four years in the preceding grade.

A Pharmacist Principal, 2d Class, is expected to serve at least three years in the preceding grade.

A Pharmacist Principal, 1st Class, is expected to serve at least two years in the preceding grade.

A Pharmacist-Inspector is expected to serve at least three years in the preceding grade.

The officers of the Pharmaceutical Corps may be retired with pension on arriving at specified age limit for their respective grades as follows: the Pharmacist-Inspector, at 62 years; the Pharmacist Principal, 1st Class, at 60 years; the Pharmacist Principal, 2d Class, at 58 years; the Pharmacist-Major, 1st Class, at 56 years; the Pharmacist-Major, 2d Class, at 53 years; and the Pharmacist Aide-Major, either class, at 52 years.

The limits of this paper preclude the detailing at length of the divers duties assigned to the pharmaceutical corps in time of peace and, still more so, the greatly increased and many special services that have been required in time of war.

DUTIES OF THE FRENCH MILITARY PHARMACISTS.

The military hospitals are under the command of the medical officers. The "head physician" usually follows the custom of entrusting to the head pharmacist whose official authority extends only over the pharmacists, assistants and medical supplies, the maintenance of discipline and the command of the civil and military attachés of the hospital so that the ranking pharmacist generally becomes the administrative officer charged with the policing, and the commissary as well as the necessary pharmaceutical duties of providing the medical and surgical supplies and attending to the compounding of all medicines and their administration.

The regulations require that the pharmacist must verify the quality of the medicines supplied and select the most suitable conditions and places for their preservation, adopt a system that will prevent errors, see that, at the time of dispensing, the medicines comply with the requirements of the "Military Hospital Formulary" and are labelled according to the requirements, maintain the records of prescriptions and of the supplies according to the official forms. He is likewise charged with the duty of delivering medical supplies to the regimental infirmaries and veterinary hospitals. He must supervise the preparation of food for the invalids. He must systematically care for and examine the supplies of the sanitary service and must receive the various supplies for the clothing and subsistence. He must make all examinations of foods and medicines and those requested by the medical officers for the diagnosis of disease, the hygiene of the troops and the divers services of the army. All of these analyses must be properly recorded with the date, the reason for the investigation and the results set forth. The analyses for the hospital service, with results and observations, are to be promptly transmitted to the physician in charge.

Finally, the pharmacist is charged with the duty of making the meteorological observations.

With the outbreak of the war and the greater demand consequently for military pharmacists, the government instituted a pharmaceutical section in each of the schools for the Army Sanitary Service and the pharmacist recruit was given the choice of attending at any one of these situated at Paris, Montpellier, Nancy, Bordeaux, Lille, Lyon, and Toulon. The faculties of these were composed of medical, pharmaceutical and chemical teachers and many leading pharmacists were detailed to duty as teachers.

The disposition of the pharmaceutical corps was necessarily changed by the existing war conditions and the demands made upon the service by the exigencies arising have been enormous and could not have been foreseen. The objects sought to be attained by the organization of the sanitary corps in the war were: (1) providing for the preparation and execution of measures of hygiene and prophylaxis; (2) the prevention and treatment of sicknesses incident to the march and to the camp; (3) the first treatment in combat, the relief and removal of the wounded irrespective of nationality; (4) hospitals for treatment of the sick and wounded; (5) the replacement of the personnel and the re-supplying of materials of the sanitary formations.

In each of these the pharmacists are assigned specific duties, as for example an ambulance unit in the infantry is provided with six physicians and one pharmacist.

In the campaign, the pharmacists are assigned in the front rank giving service to their regiments and with the infantry ambulance; in the rear, with the ambulances of the section; the evacuation hospitals; the sanitary trains, either permanent or improvised; the supply depots, the reserves of the sanitary personnel.

The pharmacist is charged with the duty of determining the potability of the water supplies and generally likewise acts as bacteriologist of the division. The specified lists of apparatus and reagents needed for these tests are transported according to the regulations by the litter bearers.

It is the mission of the pharmacist to attend the ambulances during battle, to render first aid, remove the wounded, to supply the hospital material and attention at the field hospital. The pharmaceutical personnel by the decree of April 26, 1910, has become the principal formation of the infantry ambulance. This consists of the following under the command of the pharmacist; a detachment of four attendants as litter bearers and nurses, one corporal and a detachment of four men of the military train.

The material comprises three wagons of the sanitary service to transport seven paniers of dressings, seven cases and nineteen bales of hospital materials.

The important duties assigned to the sanitary service in the rear are the evacuation hospitals, sanitary trains, the war infirmaries, the stations for the convalecents and maimed, the reserves for the personnel of the sanitary service of the army, the reserve material for the service, and the supply stations.

Each evacuation hospital is provided with two complete infantry ambulance outfits and provisions for two sectional hospital and two disinfecting apparatus and supplies of disinfectants and fumigating material and two pharmacists are assigned thereto.

The medical supply stations are under the direct command of a pharmacist with a personnel of one sub-officer, one corporal and seven attendants. The various hospitals, temporary, permanent and auxiliary, all meeting at times the local civil demands, draw their supplies from the nearest supply station. An important duty of the pharmaceutical corps is the continuous supplying of the medical needs of the various formations of the sanitary service whether at the army front, in the rear or in the interior or in the territorial hospitals and stations.

The conservation of supplies of important medicaments so that the needs of the army and the civilian population were alike provided for in this war, was one of the greatest national services performed by the Pharmaceutical Corps of the Army.

The regulations provide that the pharmacists in a campaign must assure that the pharmaceutical service conforms to the instructions and to their spirit. Under the orders of the Chief Physician, they must verify the nature and quality of the medical substances and provide these by purchase, manufacture or requisition; they must participate in the inspection of the foods and beverages supplied to the camps and cantonments; must examine all the medicines when received and make monthly reports of receipts and disposition of the supplies on the official forms provided. During the war, the work of the pharmacist has been extended to prepare many of the sanitary materials and medicines the necessity for which has been established by experience. Among these newer preparations may be mentioned sterile solutions in ampoules, artificial serums and compressed oxygen.

The French War Department has taken advantage of the aptitude of the pharmacists and their professional education and has utilized them as chemists and hygienists. Every means that could be developed by science was applied by German ingenuity to the production of barbarous war instruments and methods. The irritating, asphyxiating and poisonous gases and the pollution of water supplies are notable examples of the methods initiated by the enemy and requiring scientific counteraction.

This demanded extension of the sanitary service could not be imposed upon the military physicians who were too fully occupied with the problems of their own practice and, likewise, it was admitted that they were but poorly prepared for this field of work. Consequently, it became the duty of the pharmacists of the sanitary service to make the innumerable chemical, microscopical and bacteriological examinations necessary. It was soon learned that the analytical outfit accompanying the ambulance was insufficient for satisfactory work under the conditions existing. A complementary cadre was organized consisting of 200 additional pharmacist aide-majors and 220 portable laboratories were equipped. These constitute a special formation of the sanitary service on the front and they are charged with the constant daily surveillance of the water consumed by the troops and the providing for the purification and sterilization of any that are doubtful or purposely contaminated by the enemy.

Despite this scientific work which became more and more overwhelming, and the complex problem of regularly furnishing the medicines and surgical supplies for all of the sanitary formation, some other researches have been carried on and a number of suggestions of importance to the industries of the nation have emanated from this corps. Withal there has been no abatement of the rigid rules of administration and the strict methods of making records and the rendering of surgical assistance as well as purely pharmaceutical service.

The writer is indebted to L. Guignard for the accompanying diagram which graphically portrays the service that the pharmaceutical corps of the French army is rendering to that nation.

The preface to the able work of Major Léon Varenne was written by Prof. P. Cazeneuve, senator from Rhone. It is a concise review of the service being performed by the military pharmacists. He pays a deserved tribute "to their devotion and patriotic service, although silently given, to which the historian must in justice render homage." He states "this work of M. Varenne makes us love and respect this select corps which have contributed, in their modest sphere, most eminent service to save the country." No one reading even the preface of this book should longer doubt the importance of the pharmaceutical corps in modern warfare and the absolute necessity for such service to protect the health and lives of the troops.

SECTION ON EDUCATION AND LEGISLATION, AMERICAN PHARMACEUTICAL ASSOCIATION*

MINUTES OF THE FIRST SESSION.

The first session of the Section on Education and Legislation was called to order at 2.00 P.M., Wednesday, August 29, 1917, by Chairman R. A. Kuever.

Associate John Culley, of Ogden, Utah, presided during the reading of the Chairman's address, which follows:

ADDRESS OF THE CHAIRMAN, R. A. KUEVER.

FELLOW MEMBERS: This Section of the American Pharmaceutical Association is to be congratulated upon having arrived so successfully at its thirtieth anniversary. Three decades ago this Section was organized. In 1887 the American Pharmaceutical Association met in Cincinnati and in the course of that meeting this Section was born. In fact, two sections were created—one, the Section on Education and the other, the Section on Legislation. In 1889, during the American Pharmaceutical Association convention in San Francisco, the two Sections were united because matters pertaining to pharmaceutical education and legislation were found to be so closely allied.

It is very interesting indeed to review the minutes of these various sessions, the addresses of the various chairmen, and the various reports of the secretaries. The recommendations are numerous. Many show a thorough study of the topics in question and splendid judgment on the part of those who made them. Few have, however, received consideration. Those relating to preliminary education have been entirely ignored. This, undoubtedly, is another of the many proofs that recommendations are usually approved by means of eloquent resolutions and then promptly forgotten.

The secretaries' reports show that when this Section was organized there were only thirty schools of pharmacy in the United States. Gradually this number increased until at one time there were more than a hundred. During the last decade there has been a decrease until at the present time there are about seventy. This does not include the short-course schools, only those which are recognized by the New York Board of Education. The year this Section was organized there were some states in which no pharmaceutical laws were in force. Now every state in the Union limits the practice of pharmacy to qualified persons.

Noteworthy also is the fulfilment of early prophesies relating to the welfare of pharmacy so far as education and legislation are concerned. In 1904, Harry B. Mason, as chairman of the Section, reported the closing of one educational era and the beginning of another. In that year Congress provided a pharmaceutical law for Indian Territory, culminating a movement which lasted more than thirty years. In 1904, therefore, the practice of pharmacy became limited entirely to persons who were qualified by a certain amount of training. Laws had been passed in every state and territory in the Union which provided that persons must successfully pass licensing examinations to engage in the drug business. Thus, we may say, ended the first educational era.

That same year the state of New York placed on her statute books a law which made graduation from a recognized school of pharmacy a prerequisite to the licensing examination. At that time a certain amount of danger was prophesied in connection with such educational advances. It was pointed out that a large number of inferior pharmaceutical schools would spring up and appeal to those who were seeking this necessary diploma. Such has not been the case and probably for three reasons: first—because the states have been too slow in adopting prerequisite laws; second—because, whenever prerequisite laws have been adopted, only schools belonging to the Conference of Pharmaceutical Faculties or schools having similar standards,

* Papers read before the Sections are printed apart from the minutes of the sessions.

have been given recognition; and third—because the cost of providing a first-class professional education has been very materially increased.

With the beginning of this new era in pharmaceutical education it was also prophesied that, slowly but surely, like the adoption of pharmaceutical laws, every state in the Union would have a prerequisite law in force. Your chairman regrets not to be able to report at this time that such a prophesy has been fully realized even during the thirteen years that have elapsed. It is a pleasure to report that eleven states have recognized the necessity of better pharmaceutical education and have adopted provisions requiring the completion of a course in a recognized school of pharmacy as a prerequisite for the licensing examinations. Iowa is the most recent one to join this rank. We are fortunate in having a paper on our program entitled, "Iowa's Prerequisite Law" by J. M. Lindly. Senator Lindly is the author of the Iowa Prerequisite bill.

More than a third of a century was required to put the practice of pharmacy exclusively into the hands of qualified persons, thus providing some protection for the American people. How long it will be before every state has been made to feel the necessity of better pharmaceutical education, and thus provide better protection and medical service, is difficult to prophesy. It is safe to say, however, that in another thirteen years, more than twice the present number of states will have been successful in securing such pharmaceutical legislation. Initial educational advances by means of legislation are usually somewhat difficult to obtain. This is true because of the lack of initiative, interest and organization among pharmacists. When interest has been created and the proper organization effected it is not difficult to get just educational laws enacted.

In order that satisfactory legislation may be obtained with expedition, an active state association with an alert and energetic legislative committee is an absolute necessity. The membership list of the association should be large. It should include, as nearly as possible, every drug store in the state. It is very desirable to have the association organized by counties, giving each county representation on the legislative committee. Thus legislators may be informed effectively of pending pharmaceutical bills, the pernicious as well as the desirable ones. A survey of pharmaceutical legislative activities and inactivities of the past year reveals clearly the lack of and the necessity for proper organization. If pharmacists would spend more time and energy in organizing, their attempts at legislative matters would be more successful. In Iowa, for example, where there are two thousand stores, the state association has a membership of eighteen hundred. The annual convention is usually held during the month of June. This year, because of important legislative matters, a special mid-winter meeting took place in Des Moines while the General Assembly was in session. The legislative committee consists of one active druggist in each county, together with the officers of the association. It is very essential to have one officer, preferably the secretary, to succeed himself in office from year to year and who is interested in, enthusiastic about, and capable of, manipulating legislative matters. Such a man is much better qualified to serve as chairman of the legislative committee than one who is elected annually. Thus, when bills pertaining to pharmacy are introduced, this field-marshal may at once send out a call to arms to the various county committeemen. And when they are properly organized, and realize that the burden of work rests with them, they very effectively shoulder their muskets and march to the front to defend their calling. It requires keener insight to keep undesirable laws off the statute books than to put desirable ones on. An ounce of prevention is worth a pound of cure. In many states there are too many pharmaceutical laws for the good of the calling and in some of these very states the cry is, "We want more laws to protect us."

The enemies of the pharmaceutical profession are constantly mobilizing their forces for attack. There were few legislative sessions last winter during which some inimical measure was not introduced. In states where these measures failed to become law, it was only because there was an equally well-mobilized pharmaceutical force to bring defeat. Such mobilization requires the enlistment of every pharmacist within the state. In numbers there is strength. This work cannot successfully be carried on by a few, no matter how well they may do their part. The endorsement and approval of every druggist is necessary and those, who, without good reason, fail to lend their assistance to this cause, are slackers. In the opinion of many pharmacy is hitting the trail of progress at a snails' pace simply because the importance of county and state organization has been overlooked or underestimated.

Likewise, the pharmaceutical enemy uses his forces to prevent the enactment of desirable laws. In this connection it may be of interest to say that in one state the association voted the prerequisite measure unanimously and yet the bill was never reported out of the committee. It is understood that a manufacturer of proprietary medicines, whose preparations are sold exclusively by vendor wagons was the manipulator in this case. It is also fairly well known that this manufacturer of cure-alls had more influence with the members of the General Assembly than did the entire state association. This is lack of organization—nothing more.

We must not overlook the importance of the association's own journal. Each association should have its journal, published monthly, to give the members first-hand information on vital subjects. No matter how small this journal or how insignificant its initial appearance, it will serve a very worthy purpose. All special issues, such as convention numbers, may profitably be sent to every druggist in the state. The cost is relatively small. It is the best, cheapest and most ethical advertisement for the association itself, preserving interest and increasing membership. At present only a few state associations have their own journal issued regularly.

In most states the legislative sessions occur in the odd years. During the past winter much pharmaceutical legislative activity was noticeable. In fact, in one state a prerequisite bill was passed by both houses but was later vetoed by the governor. In several other states prerequisite bills were introduced. If experience is the best teacher, many of these associations will profit by this failure. A novice at the first attempt, an adept at the second, let there be no despair in the ranks. Constant and well-directed efforts are sure to be crowned with success.

As one looks over the various minutes of this Section one is impressed with the tremendous amount of discussion on preliminary education. Likewise, in the minutes of the Conference of Pharmaceutical Faculties, voluminous discussions on this all-important topic are recorded. This body has been in existence eighteen years and in that time has established a rule which provides one year of high school work as preliminary training for those who desire to enter pharmacy. As advances in professional and scientific education go, that is certainly an admirable record. Let it be said that there are members in the Conference who favor an increase in preliminary education—in fact, some favor very strongly four years of preliminary training—and those who have successfully opposed it have real cause for elation. At the Detroit meeting in 1914 two years of high school work was voted after a prolonged and eloquent debate, in which the poor boy, the shortage of clerks, the mushroom schools, and the injustice to the so-called privately owned schools were oratorically set forth. This two-year rule was to take effect in 1917. At the Philadelphia meeting last year this vote was rescinded, and the two-year rule was made recommendatory, in place of mandatory—which action was a decided step backward. While the faculty organizations in other professions are constantly increasing their requirements in preliminary training, this organization of pharmaceutical educators proceeds to decrease those of pharmacy by one year. The other professions justly ask—what is the matter with pharmacy?—and those who are not informed reply that pharmacy is submerged in the mire of commercialism. Educational writers realize that pharmaceutical education is at a standstill simply because of the low entrance requirements.

On the campus of the university where admission to the college of pharmacy is less than four years of preliminary training, the pharmaceutical students are not accorded the same recognition as students in other departments. This is a well-recognized fact—so much so that a university teacher was recently surprised to find that there are sister institutions in which no such distinctions are made because the entrance requirements are identical.

The most discouraging thing in connection with work in pharmaceutical education is the fact that the Conference of Pharmaceutical Faculties has thus far persistently refused to see the necessity of better preliminary training—the absolute necessity of requiring four years of secondary school work as entrance to colleges of pharmacy. The Conference is composed of forty-three schools, among this number the best institutions of pharmaceutical learning in the land. A few demand four years of high school work but the majority are satisfied with one year, which is the minimum the Conference prescribes. This is the fly in the ointment. It is stultifying to presume that pharmacy, with its present lax educational system, should be accorded the same professional and scientific recognition found in other professions. Ten years of preparatory work are necessary for the practice of some professions, four years in high school, two years in academic work, and four years in the professional school proper. There is not a state in the

Union where the scholastic requirement for pharmacy is more than three years—one in high school and two in college. This does not include the so-called store experience, which now means little, as is evidenced by the fact that at least one examining board has ruled this year not to accept experience gained behind the soda counter.

Consider the profession of dentistry—eight years now in many states, four years in high school and four in a dental college. The filling of teeth and the treating of infections in the oral cavity is no more difficult and should require no more training than the preparation of dichloramin-toluene or a physiologically active and dependable infusion of digitalis.

There is not a single sound argument why the preparation for pharmacy should be inferior to that of other professions—but it is and he who refuses to admit it is deluding himself. By some the argument of financial returns has been advanced. Statistics would show that the net income, per capita, in medicine is no larger than that in pharmacy, while in dentistry and law it is somewhat smaller. Occasionally some one in the pharmaceutical ranks admits that there is not enough professional or scientific work to do to permit of an extensive training. Is it that pharmacists do not receive thorough training because their calling offers very little opportunity for the application of it or is it that pharmacy offers very little opportunity for scientific work because the pharmacist has not been thoroughly and scientifically trained? Has there ever been a field of endeavor that has offered a more golden opportunity than organic pharmaceutical chemistry does at this present moment or than it has during the past three years? The cultivation of medicinal plants should be of interest to pharmacists at this time. Professor Day reported some time during the year that some one in his state has realized fifteen hundred dollars from a small patch of belladonna and that with the handicap of no pharmaceutical training. The physician, the surgeon, the internist, the dentist and the veterinarian are all dependent upon the pharmacist directly or indirectly. The pharmacist must, however, demonstrate his ability, as they are compelled to do. He must show that he is qualified by training to do whatever work may fall in his sphere. Because many of the retail pharmacists lack scientific training, manufacturers of pharmaceutical products, the physician supply houses and even the wholesale druggists have established business relations directly with the physician, dentist and veterinarian. Investigative work and the ready-made medicines have done a great deal to stimulate this business relationship but primarily because the pharmacist has not availed himself of the opportunity to do the work and in a majority of cases it is because he has not had the benefit of a comprehensive scientific training.

The discussions on preliminary training show clearly that those who have opposed advances in this direction have done so for one of three reasons. They are either interested in a low standard school which would suffer a decrease in attendance, or they are the promulgators of a mail or short course in pharmacy, the importance of which would automatically cease with higher educational requirements. Or, they may belong to that small number of the old school, sincere in their belief that what was good enough for father is good enough for son.

For those who object because it may work a hardship on the school with which they are associated, very little can be said. It is evident that their institution has served its purpose, no matter how worthy its purpose may have been in the past. An institution which in this day and age of education can require not more than one year of high school work for entrance is about ready to "sing its swan song" and a more creditable song it would be if it were forced by high requirements than by lack of professional recognition and educational attainments. In some cases, no doubt, the hardship that advancing entrance requirements would work is the product of the imagination of those who oppose them. In schools where four years of preliminary work are now required there has been no appreciable decrease in attendance. Possibly the enrollment was somewhat affected the first year but in the succeeding years the attendance was invariably larger and the students of much better type, who have actually chosen pharmacy for their life's work because they are interested in it, and not because it is the only profession open to them with their inadequate preliminary education.

But assume that in some schools it actually does work a hardship—such hardship will fall entirely upon those who are interested in seeing the institution continued. If, on the other hand, the school is continued with low standards it will work a hardship on the students it attempts to train, because it will attempt to train young men and women in lines of work for which there is no fundamental basis. Anyone who argues that a boy or girl who has completed only

one year of high school work can successfully master the complexities of the present-day pharmaceutical curriculum is deluding himself or else he is not familiar with the modern course of study. If a low standard school is continued, it will work a real hardship on the student it trains, insofar that they will be expected to compete on common ground with those who have had a much better preliminary training and a much more thorough pharmaceutical education. It will work a hardship on those young men and women who will be encouraged to leave their high school studies before they have completed them, in order to pursue those of a pharmaceutical course. It will continue, as it has in the past, to work a hardship on the incompetent pharmaceutical student of the high standard school, who because of lack of ability or application finds himself at the end of the year without credit for his work. He will be permitted to enter such schools with advanced standing and be graduated with the regular class simply because his tuition is necessary in maintaining the school. It will work a hardship on him and on the community in which he will practice his profession because he has an inadequate pharmaceutical training—yet he is a graduate. It will work a hardship on him because he is forced into the more purely commercial sides of pharmacy to make both ends meet. And finally such a low standard school is and will continue to work a real hardship on the pharmaceutical profession because it graduates annually a class of young men and women, many of whom have been inadequately trained to cope with the numerous perplexing problems the various professions, which depend upon pharmacy for their supplies, now offer.

And there is the situation in the nut-shell. It is not the commercial side that has brought pharmacy as a profession into ill-repute—but it is the lack of training: first, the preliminary training and then that offered by the low standard schools of pharmacy, which has made true pharmaceutical service impossible.

One other pharmaceutical bane must be mentioned, and that is the vocational school which is attempting to teach pharmacy. That this reflects discredit and makes for conditions which decrease what little recognition pharmacy now has, cannot be denied. It has been suggested that the Conference of Pharmaceutical Faculties admit these institutions to membership in order that some sort of regulations be provided for them. Such procedure would be a grave mistake, the opinions of those who favor it notwithstanding. On the other hand, the American Pharmaceutical Association and the National Association of Boards of Pharmacy should take steps at once to make it impossible for such institutions to continue to teach pharmacy. Again—advancing preliminary education is a solution to the problem. If four years of secondary school work were universally required, these vocational schools would automatically cease their attempts to give instruction in courses for which they are not qualified or equipped.

In closing, this report may be summarized as follows: If pharmacy would give maximum professional service—provide better assistance to the physician, dentist and veterinarian—and thus safeguard the public and in return receive its full quota of professional recognition, it must do four things:

First—It must increase preliminary educational requirements to four years of accredited high school work.

Second—It must standardize its educational institutions—not on paper but in fact. It makes a great deal of difference whether the library of an institution is composed of fifty or five thousand volumes, whether the laboratory equipment consists of sufficient apparatus so that each student may be amply supplied, or whether it is so meager that there is one mortar and one balance for each class. It makes a great deal of difference whether an institution provides five hundred dollars or fifteen thousand dollars worth of drugs and chemicals annually for laboratory experimentation; whether its teaching force is composed of four or twenty-four men and whether the salaries vary from twelve hundred dollars for assistants, twenty-seven hundred for heads of departments, and thirty-five hundred for the dean of the school, or whether the assistants get but from seven to eight hundred and the dean fifteen hundred dollars annually. And lastly—it makes a vast difference whether those who are teaching are or are not qualified to give pharmaceutical instruction in an enthusiastic and scholarly manner. Are they or are they not keeping in touch with pharmaceutical, medical and chemical literature—and broadening by original investigative work?

Third—The courses must gradually be changed in accordance with that which is scientifically sound. From time to time the materials and operations that have and are becoming obsolete

must be discarded and new and useful substances and procedure substituted. How futile it is to fill a youthful mind with facts pertaining to *Ferula Sumbul* or *Smilax Ornata*. The U. S. P. IX gives many such drugs to which little, if any, time should be given in our already overcrowded curriculum. It may be of interest to state that a committee of the American Medical Association is circulating a list of useless drugs among the recognized medical schools with the recommendation that they be eliminated from the courses in materia medica and therapeutics.

Fourth—Research and investigative work generally must receive more attention in the schools. Medical advances absolutely demand it. Little of this kind of work is being done in colleges of pharmacy. A great deal more is being done by those who have primarily a mercenary object in mind. Investigative work must be carried on by institutions of pharmaceutical learning for the sake of truth—for the purpose of adding to the sum-total of human knowledge, and with the intention of solving pharmaceutical problems that advance the standing of the profession. The College of Pharmacy of the State University of Iowa has this year established a research department in which a graduate investigator is employed. He gives no instruction but devotes his entire time to the investigation of pharmaceutical problems. At present he is working on the commercial preparation of synthetic organic drugs.

When these advances have been realized, then pharmacy will be in a position to give true scientific and professional service and in return will receive just and full recognition in the army and navy as well as in civil life.

ABSTRACT OF DISCUSSION.

EDWARD SPEASE.—I desire to emphasize the need for better preliminary education of pharmacists; there has been a deficiency in correct pharmaceutical training and we ought to take a deeper interest in placing pharmacy on a higher plane than it is today, then we can have more cooperation from physicians and a right to expect legislative support.

SIDNEY HAUSTEIN.—One of the motives that I had in coming to this meeting was to see what stand the Association would take in this matter. We certainly desire our children to be educated; why it should be expected that those who enter pharmacy should not need a like standard of education is inexplicable. Many druggists seem to be satisfied with the requirements of twenty-five or even forty years ago.

ALEX M. ROVIN.—There can be no efficiency in any profession without a primary basic education. Only one viewpoint can be taken of the subject—to place pharmacy on a professional basis, it is absolutely essential that everyone who aspires to become a pharmacist shall have the requisite primary education to enable him or her to become proficient in the profession.

CHARLES T. P. FENNEL.—The address appeals to me very strongly. We all know how the American Pharmaceutical Association feels on higher education, but we forget that the American Pharmaceutical Association represents only a small part of the pharmacists in the United States, the others fail to hear papers of this kind which show what is really necessary to bring the standard of the American pharmacist to where it belongs. Relative to preliminary education, it may not be adaptable to pharmacy. Several years ago a young man applied for admission to our school, who had the required number of counts but none of the branches had any value for college of pharmacy entrance requirements. We presume, perhaps too often, that the preliminary education a young man may have qualifies him, whereas it does not; we should examine the prospective student for quality of education.

RUFUS A. LYMAN.—Educators are sometimes accused of being too theoretical, interested only in professional standards. I have heard a good deal at this convention, especially in the Conference, to the effect that in preparing a man to enter the profession of pharmacy he must be qualified in certain subjects of the high school that will help him in the study of pharmacy. The only thing a man gets in the high schools that will help him in the study of pharmacy is mental development. It is not a matter of bookkeeping; it is not a matter of Greek; it is not a matter of chemistry; it is not a matter of language; it is that which will develop and train his mind. In the educational world there has been a discussion through the centuries as to what are the best subjects for this. Some think it is Latin; some think it is mathematics; but in this practical age we are swinging to subjects that are, at least, supposedly more practical; but what a boy needs in high school, is something that will make his mind grow and enable him to think accurately and intensively so that when it comes to a study of the sciences which constitute a pharmaceutical education, he has a brain that can be trained. Personally, I have my notions

about what a boy ought to study in a high school, and so has every one of us, but the essential is not so much what he studies as that he is made to work.

In our educational system we are reducing everything to a machine, and we are not making the boys and girls think. We are not training their minds to cope with the greater problems and I would much prefer to see a boy study mathematics and Latin and Greek and the elements of the English language, if in doing that he is taught accuracy, and is taught how to study and how to concentrate his mind and how to stay by a problem until he has solved it—I don't care what the problem is—and really I don't know but what a boy would be better off, if he were made to confine his studies to subjects of an intensive nature and never take up a subject or have a thing to do with those with which he will be concerned when he takes up the study of pharmacy. It is not a matter of subjects; it is a matter of training.

JACOB DINER.—I want to subscribe to every word that the Chairman and Professor Lyman have said. I was shocked when I saw in the newspapers, one morning, that the Carnegie Foundation had set aside a certain amount of money for a certain college with the understanding that Latin and all that trash—it was not called that, but it was intimated—be eliminated from the curriculum, and then I learned that another large institution in New England had abolished Latin and Greek from their curriculum as being useless. If we take education for what it is meant, the training of the mind, to think intelligently and act intelligently, I will say, as Professor Lyman has said, that I know of no subjects that are better qualified to train a man than mathematics and the so-called “dead” languages. The preliminary education for pharmacy should not be in the so-called practical subjects, but the students' preliminary education should qualify them for entering a pharmaceutical school, and should be on the broad plane of mental development.

(The Chairman's address was referred for publication.)

CHAIRMAN KUEVER.—The next topic on the program is the report of the Secretary, it follows:

REPORT OF SECRETARY, C. B. JORDAN.

MR. CHAIRMAN AND MEMBERS OF THE SECTION ON EDUCATION AND LEGISLATION:

One of the duties of the Secretary of this Section is to collect and report information regarding the educational progress of pharmacy during the year, and information regarding the changes and additions to the pharmacy laws of the several states. This your Secretary has endeavored to do.

I sent a circular letter to the dean of every school of pharmacy in the United States and have received replies from nearly every one. I also sent a circular letter to the secretary of every state board of pharmacy and have received replies from all of them.

For convenience, I have divided my report into two parts: First, Reports from the Schools of Pharmacy; Second, Reports from the State Boards of Pharmacy.

For the reports from the schools of pharmacy I requested the dean of each school or college of pharmacy to give me the following information: 1st, Name of school; 2nd, Number of students 1916-1917; 3rd, Number of graduates 1916-1917; 4th, Minimum entrance requirements for 1917-1918; 5th, Change in entrance requirements 1917-1918; 6th, educational advances adopted during the past year.

I have briefly summarized some data regarding the entrance requirements in force and adopted during the year and I will present that data at the end of this part of my report.

REPORTS FROM SCHOOLS OF PHARMACY.

EDUCATIONAL ADVANCES.

The following questions, in outline form, were sent to the dean of each school of pharmacy:

Date.....

1. *Name of school*.....
2. *Number of students, 1916-1917*.....
3. *Number of graduates or students in graduating class, 1916-1917*.....
4. *Minimum entrance requirements for 1917-1918*.....
5. *Changes in entrance requirements, 1917-1918*.....
6. *Educational advances during past year*.....

.....DEAN.

The following are the replies, alphabetically arranged, according to the states in which the schools are located:

ALABAMA:

- (1) 1. Alabama Polytechnic Institute, Department of Pharmacy.
2. Forty-five.
3. Seventeen.
4. Two years of high school work for Ph.G. degree; four years high school work for Ph.C. and B.S. degrees.
5. Four years of high school work instead of two years for Ph.C. degree.
6. Three-year course revised.
- (2) 1. School of Pharmacy, University of Alabama.
2. Five.
3. Three.
4. Two years high school work.
5. None.
6. None.

CALIFORNIA:

- (3) 1. California College of Pharmacy.
2. Ninety-two.
3. Thirty-four (1916).
4. Two years of high school work for Ph.G. degree; four years high school work for Ph.C. and Phar.B. degrees.
5. No report.
6. Two hours weekly First Aid and Military Hygiene at college. Field training one afternoon per week at Letterman General Hospital, given by U. S. Army officers.
- (4) 1. College of Pharmacy, University of Southern California.
2. Eighty.
3. Twenty-nine.
4. Two years of high school work.
5. None.
6. No report.

COLORADO:

- (5) 1. College of Pharmacy, University of Colorado.
2. Twenty-two.
3. Nine.
4. Four years of high school work.
5. None.
6. Two years of high school work for Ph.G. degree; three years of high school work for Ph.C. degree; four years of high school work for B.S. degree.

DISTRICT OF COLUMBIA:

- (6) 1. George Washington University, National College of Pharmacy.
2. Thirty-five.
3. Ten.
4. Four years of high school work.
5. None.
6. Course in mercantile pharmacy and jurisprudence broadened.
- (7) 1. Pharmaceutic College, Howard University.
2. Forty-six.
3. Sixteen.
4. Four years of high school work.
5. None.
6. Increased entrance requirements from two to four years of high school work.

GEORGIA:

- (8) 1. University of Georgia, School of Pharmacy.
2. Fifteen.
3. Four.
4. Two years of high school work.
5. None.
6. A course in accounting added.
- (9) 1. Mercer School of Pharmacy.
2. Twenty-seven.
3. Eight.
4. Two years of high school work for two-year course; four years of high school work for three- and four-year courses.
5. None.
6. Commercial Pharmacy Course added; hours increased to 2156 for Ph.G. degree; four-year course for B.S. in Pharmacy.
- (10) 1. Southern College of Pharmacy.
2. Sixty.
3. Thirty-five.
4. One year of high school work.
5. None.
6. No report.
- (11) 1. Atlanta College of Pharmacy.
2. Eighty-seven.
3. Twenty-nine.
4. One year of high school work.
5. No report.
6. No report.

ILLINOIS:

- (12) 1. Northwestern University, School of Pharmacy.
 2. Sixty-three.
 3. Thirty.
 4. Fifteen units of high school work.
 5. None.
 6. School has been discontinued.
- (13) 1. University of Illinois, School of Pharmacy.
 2. One hundred and sixty.
 3. Sixty.
 4. Four years of high school work.
 5. No report.
 6. Two years of seven months to two years of eight and one-half months for Ph.G.; two years of nine months to three years of eight and one-half months for Ph.C.
- (14) 1. Central States College of Pharmacy, Loyola University.
 2. One hundred and ten.
 3. Twenty-five.
 4. One year of high school work.
 5. None.
 6. None.

INDIANA:

- (15) 1. Purdue University, School of Pharmacy.
 2. Sixty.
 3. Twenty-four.
 4. Four years of high school work.
 5. None.
 6. Military drill to two-year course. Course in English added to first year. Practical dispensing of prescriptions. Time for pharmaceutical arithmetic lengthened from 18 to 36 hours. Course in Commercial Pharmacy strengthened by lectures of practical men; subjects, Psychology of retailing and advertising; Finances; Insurance; Show-card writing.
- (16) 1. Tri-State College of Pharmacy.
 2. Twenty-five.
 3. Eight.
 4. One year of high school work.
 5. No report.
 6. Course in accounting extended; more work in ore, soil, fertilizer, cement analyses.
- (17) 1. Valparaiso School of Pharmacy.
 2. One hundred and fifty-four.

3. Forty-eight Ph.G.; twelve or thirteen Ph.C.
 4. Two years of high school work.
 5. No report.
 6. No report.
- (18) 1. School of Pharmacy, University of Notre Dame.
 2. Sixteen.
 3. Six.
 4. One year of high school work for Ph.G.; four years of high school work for Ph.C. and B.S. in Pharmacy.
 5. No report.
 6. Increased entrance requirements for Ph.C. course.

IOWA:

- (19) 1. College of Pharmacy, State University of Iowa.
 2. Fifty-eight.
 3. Thirty-two.
 4. Four years of high school work.
 5. No report.
 6. No report.

KANSAS:

- (20) 1. School of Pharmacy, University of Kansas.
 2. Sixty-five.
 3. Nineteen.
 4. Four years of high school work.
 5. No report.
 6. No report.

KENTUCKY:

- (21) 1. Louisville College of Pharmacy.
 2. Fifty-seven.
 3. Nineteen.
 4. One year of high school work.
 5. None.
 6. Three-year course added.

LOUISIANA:

- (22) 1. New Orleans College of Pharmacy.
 2. Sixty-one.
 3. Twenty-two.
 4. One year of high school work.
 5. No report.
 6. No report.
- (23) 1. School of Pharmacy, College of Medicine, Tulane University of Louisiana.
 2. Fifteen.
 3. Five.
 4. Three years of high school work.
 5. None.
 6. None.

MAINE:

- (24) 1. Department of Pharmacy, University of Maine.
2. Fifteen.
3. Six.
4. Three years of high school work for Ph.G. degree; four years of high school work for Ph.C. and B.S. degrees.
5. In 1919 four years of high school work will be required in all courses.
6. Lectures given on U. S. P. to pharmacists, physicians and nurses.

MARYLAND:

- (25) 1. Department of Pharmacy, University of Maryland.
2. Ninety-seven.
3. Twenty-seven.
4. One year of high school work.
5. Two years of high school work.
6. No report.

MASSACHUSETTS:

- (26) 1. Massachusetts College of Pharmacy.
2. Two hundred and sixty-eight.
3. Forty.
4. Two years of high school work.
5. No report.
6. Erecting new building to cost more than \$500,000 with site and equipment.

MICHIGAN:

- (27) 1. College of Pharmacy, University of Michigan.
2. One hundred and twelve.
3. Thirty-one.
4. Four years of high school work.
5. No report.
6. Entrance to two-year course not to be permitted after 1917.

MINNESOTA:

- (28) 1. College of Pharmacy, University of Minnesota.
2. One hundred and five.
3. Thirty-seven.
4. Four years of high school work.
5. No report.
6. Two-year course for Ph.G. discontinued; minimum course three full University years of nine months for degrees of Ph.C.

MISSISSIPPI:

- (29) 1. School of Pharmacy, University of Mississippi.
2. Forty.
3. Twelve.

4. Four years of high school work.
5. Fourteen standard entrance units required instead of eight for Ph.G. course.
6. None.

MISSOURI:

- (30) 1. St. Louis College of Pharmacy.
2. One hundred and thirty.
3. Fifty.
4. One year of high school work.
5. None.
6. Increased hours of Commercial Pharmacy from fifteen to thirty.
(31) 1. Kansas City College of Pharmacy.
2. Forty-five.
3. Seventeen.
4. One year of high school work.
5. No report.
6. No report.

MONTANA:

- (32) 1. University of Montana, School of Pharmacy.
2. Twenty-three.
3. Eight.
4. Four years of high school work
5. No report.
6. No report.

NEBRASKA:

- (33) 1. College of Pharmacy, University of Nebraska.
2. Thirty-five.
3. Nine.
4. Four years of high school work.
5. None.
6. None.
(34) 1. Creighton University, College of Pharmacy.
2. Fifty-four.
3. Twenty-six.
4. One year of high school work.
5. No report.
6. Thirty-two hours to junior laboratory work, sixteen hours added for class conference on commercial pharmaceutical problems.

NEW JERSEY:

- (35) 1. College of Jersey City.
2. Sixteen.
3. Eight.
4. One year of high school work.
5. None.
6. None.

- (36) 1. New Jersey College of Pharmacy.
 2. One hundred and thirty-five.
 3. Term had not ended.
 4. One year of high school work.
 5. No report.
 6. Entrance requirements changed from grammar school to one year of high school work.

NEW YORK:

- (37) 1. Albany College of Pharmacy.
 2. One hundred and three.
 3. Forty-three.
 4. No report.
 5. No report.
 6. After 1918, two years of high school work required.
- (38) 1. Brooklyn College of Pharmacy.
 2. Three hundred and ninety-three.
 3. One hundred and forty.
 4. Fifteen regents counts.
 5. No report.
 6. After 1918, thirty regents counts.
- (39) 1. Buffalo College of Pharmacy.
 2. One hundred and seventy-four.
 3. Sixty-one.
 4. One year of high school work.
 5. No report.
 6. After 1918, two years of high school work required. Introduced identification of galenicals and chemicals by physical characteristics.
- (40) 1. Columbia University College of Pharmacy of City of New York.
 2. Dean H. H. Rusby was leaving for his South American trip and interfered with a complete report.
 6. Bachelor of Science in Pharmacy, rearrangement of course in first and second year preparatory for work leading to doctor's degree.
- (41) 1. Fordham University College of Pharmacy.
 2. One hundred and ten.
 3. Forty.
 4. One year of high school work.
 5. No report.
 6. After 1918, two years of high school work.

NORTH CAROLINA:

- (42) 1. School of Pharmacy of the University of North Carolina.
 2. Fifty-three.
 3. Six.
 4. Four years of high school work.
 5. No report.

6. New courses added leading to P.D. and Ph.C.

NORTH DAKOTA:

- (43) 1. North Dakota Agricultural College School of Pharmacy.
 2. Twenty-one.
 3. Eight.
 4. Two years of high school work for two-year course; four years of high school work for full college course.
 5. No report.
 6. No report.

OHIO:

- (44) 1. College of Pharmacy, Ohio State University.
 2. Ninety-eight.
 3. Fourteen from two-year course, four from four-year course.
 4. Two years of high school work for two-year course; four years of high school work for full college course.
 5. None.
 6. Added commercial pharmacy, course in pharmaceutical literature, emergency and first aid training.
- (45) 1. Cleveland School of Pharmacy, Western Reserve University.
 2. One hundred and twenty.
 3. Forty-three.
 4. Two years of high school work.
 5. No report.
 6. No report.
- (46) 1. Ohio Northern University, College of Pharmacy.
 2. Ninety-eight.
 3. Fifty-six.
 4. Two years of high school work.
 5. No report.
 6. Added microscopy and commercial pharmacy.
- (47) 1. Cincinnati College of Pharmacy.
 2. Forty-two.
 3. Thirty-two.
 4. Two years of high school work.
 5. No report.
 6. No report.
- (48) 1. Toledo University, College of Pharmacy.
 2. Twelve.
 3. Three.
 4. Two years of high school work.
 5. No report.
 6. Added Histology, Latin, Pharmaceutical Jurisprudence, Commercial Pharmacy, Dispensing Pharmacy.

OKLAHOMA:

- (49) 1. School of Pharmacy, University of Oklahoma.
2. Seventy-five.
3. Twelve.
4. Two years of high school work for Ph.G. degree; four years of high school work for Ph.C. and B.S. degrees.
5. No report.
6. No report.

OREGON:

- (50) 1. Department of Pharmacy, Oregon Agricultural College.
2. Sixty-two.
3. Eight in Ph.G. course. Ten in B.S. course (1916).
4. Two years of high school work.
5. No report.
6. Both two- and four-year courses require four years of high school work. Three-year course proposed for Ph.C.
- (51) 1. North Pacific College of Pharmacy.
2. Thirty-seven.
3. Twelve.
4. Two years of high school work for two-year course; four years of high school work for three-year course.
5. No report.
6. Bacteriologic work added.

PENNSYLVANIA:

- (52) 1. Pittsburgh College of Pharmacy, Department of Pharmacy of University of Pittsburgh.
2. Two hundred and ten.
3. Report prior to commencement.
4. Two years of high school work.
5. No report.
6. No report.
- (53) 1. Temple University, Department of Pharmacy.
2. One hundred and sixty-four.
3. Eleven.
4. One year of high school work.
5. No report.
6. After 1918, two years of high school work.
- (54) 1. Philadelphia College of Pharmacy.
2. Five hundred and eighty-five.
3. Two hundred and forty-four.
4. One year of high school work.
5. No report.

6. After 1918, two years of high school; four years of high school for Ph.C.

PORTO RICO:

- (55) 1. School of Pharmacy, University of Porto Rico.
2. Twenty.
3. Ten.
4. Diploma from four-year high school course.
5. No report.
6. One additional teacher, two laboratory assistants, laboratories improved. Three-year course for Ph.C.

RHODE ISLAND:

- (56) 1. Rhode Island College of Pharmacy and Allied Sciences.
2. Seventy.
3. Twenty-one.
4. Four years of high school work.
5. No report.
6. State appropriation of \$1000.00.

SOUTH CAROLINA:

- (57) 1. School of Pharmacy of the Medical College of State of South Carolina.
2. Thirty-one.
3. Six.
4. Two years of high school work.
5. No report.
6. Added course in Pharmaceutical Bacteriology.

SOUTH DAKOTA:

- (58) 1. South Dakota School of Pharmacy.
2. Twenty-eight.
3. Eight.
4. Four years of high school work.
5. No report.
6. No report.

TENNESSEE:

- (59) 1. School of Pharmacy, Vanderbilt University.
2. Twenty-seven.
3. Fourteen.
4. Four years of high school work.
5. No report.
6. No report.
- (60) 1. University of Tennessee, School of Pharmacy.
2. Fourteen.
3. Six.
4. Four years of high school work.
5. No report.

6. Entrance requirements raised from three to four years of high school work.

- (61) 1. Meharry Pharmaceutical College.
2. Fifty-two.
3. Twenty-five.
4. Two years of high school work.
5. No report.
6. Filling of 500 prescriptions monthly by students.

TEXAS:

- (62) 1. Baylor University, College of Pharmacy.
2. Sixty-three.
3. Seventeen.
4. Two years of high school work.
5. No report.
6. Raised entrance requirements from one year to two years of high school work. Additional building contemplated.
- (63) 1. School of Pharmacy, University of Texas.
2. Forty-seven.
3. Fourteen.
4. Two years of high school work.
5. No report.
6. No report.

VIRGINIA:

- (64) 1. School of Pharmacy, Medical College of Virginia.
2. Eighty-three.
3. Twenty-eight.
4. One year of high school work.
5. None.
6. Added courses in accounting and clinical laboratory technique.

WASHINGTON:

- (65) 1. University of Washington, College of Pharmacy.
2. Eighty-two.
3. Sixteen.

4. Four years of high school work. Special students but not for degree may be admitted with lower qualification.

5. No report.
6. Ph.G. for two-year course; Ph.C. for three-year course; B.S. for four-year course; M.S. for five-year course.

- (66) 1. Washington State College, Department of Pharmacy.
2. Sixty-one.
3. Fourteen.
4. Four years of high school work.
5. No report.
6. From two years of high school work to four years; course in salesmanship added, including advertising, window dressing, sign writing, etc. Course in Bacteriology also added.

WEST VIRGINIA:

- (67) 1. West Virginia University, Department of Pharmacy.
2. Thirty-three.
3. Two.
4. Four years of high school work.
5. No report.
6. No report.

WISCONSIN:

- (68) 1. Department of Pharmacy, University of Wisconsin.
2. Forty-nine.
3. Ten.
4. Two years of high school work.
5. No report.
6. Change requirements from one year of high school work to two years.
- (69) 1. Marquette University, School of Pharmacy.
2. Forty.
3. Thirteen.
4. Two years of high school work.
5. None.
6. New dispensing laboratory; started medicinal plant garden.

Reports were not received from the Department of Pharmacy, College of Physicians and Surgeons, San Francisco, Cal.; Indianapolis College of Pharmacy, Indianapolis, Ind.; Highland Park College of Pharmacy, Des Moines, Ia.; School of Pharmacy, National University of Arts and Sciences, St. Louis, Mo.; Leonard School of Pharmacy, Shaw University, Raleigh, N. C. The following schools have been discontinued: College of Pharmacy, Department of Southern Methodist University; College of Pharmacy, San Juan, Porto Rico; School of Pharmacy, Birmingham Medical College, Birmingham, Ala.

Twenty-one schools require four years of high school work or equivalent for entrance to all courses; eighteen schools make such requirement for courses leading to Ph.C. and B.S. de-

grees; twenty-eight have increased the entrance requirements; and two schools have discontinued two-year courses.

SUMMARY.

The following Colleges of Pharmacy now require 4 years of high school or equivalent for entrance to all courses:

College of Pharmacy, University of Colorado.
 Geo. Washington University, National College of Pharmacy.
 Pharmaceutic College, Howard University.
 University of Illinois, School of Pharmacy.
 Purdue University, School of Pharmacy.
 College of Pharmacy, State University of Iowa.
 School of Pharmacy of the University of Kansas.
 Department of Pharmacy, University of Maine to be effective 1919.
 College of Pharmacy, University of Michigan.
 College of Pharmacy, University of Minnesota.
 School of Pharmacy, University of Mississippi.
 University of Montana, School of Pharmacy.
 College of Pharmacy, University of Nebraska.
 School of Pharmacy, University of North Carolina.
 School of Pharmacy, University of Porto Rico.
 South Dakota, School of Pharmacy.
 School of Pharmacy, Vanderbilt University.
 University of Tennessee, School of Pharmacy.
 University of Washington, College of Pharmacy, special admittance with less requirement if not candidates for degrees.
 Washington State College, Department of Pharmacy.
 W. Virginia University, Department of Pharmacy.
 Total, 21.

The following Colleges of Pharmacy require 4 years of high school or equivalent for entrance to courses leading to Ph.C. and B.S. degrees:

Alabama Polytechnic Institute, Department of Pharmacy.
 California College of Pharmacy for Ph.C. and Phar.B. degrees.
 Mercer University, School of Pharmacy.
 Valparaiso University, School of Pharmacy.
 School of Pharmacy, University of Notre Dame.
 Department of Pharmacy, University of Maine.
 N. D. Agricultural College, School of Pharmacy.
 School of Pharmacy, University of Oklahoma.
 North Pacific College of Pharmacy.
 Department of Pharmacy, Oregon Agricultural College.
 Philadelphia College of Pharmacy.
 Department of Pharmacy, University of Wisconsin.
 Ohio State University College of Pharmacy.
 Albany College of Pharmacy.
 Buffalo College of Pharmacy.
 Fordham University College of Pharmacy.
 Brooklyn College of Pharmacy.
 Columbia University, College of Pharmacy.
 Total, 18.

The following Colleges of Pharmacy have increased their entrance requirements:

Alabama Polytechnic Institute, Department of Pharmacy.
 Pharmaceutic College, Howard University.
 University of Illinois, School of Pharmacy.

Valparaiso University, School of Pharmacy.
 School of Pharmacy, University of Notre Dame.
 College of Pharmacy, State University of Iowa.
 Department of Pharmacy, University of Maine.
 Department of Pharmacy, University of Maryland.
 Massachusetts College of Pharmacy.
 School of Pharmacy, University of Mississippi.
 University of Montana, School of Pharmacy.
 New Jersey College of Pharmacy.
 Albany College of Pharmacy effective 1918.
 Brooklyn College of Pharmacy effective 1918.
 Buffalo College of Pharmacy effective 1918.
 Columbia University, College of Pharmacy effective 1918.
 Fordham University, College of Pharmacy effective 1918.
 Cleveland School of Pharmacy, Department Western Reserve University.
 Ohio Northern University, College of Pharmacy.
 Cincinnati College of Pharmacy.
 Toledo University, College of Pharmacy.
 Temple University, Department of Pharmacy effective 1918.
 Philadelphia College of Pharmacy effective 1918.
 School of Pharmacy of the Medical College of South Carolina.
 University of Tennessee, School of Pharmacy.
 Baylor University, College of Pharmacy.
 Washington State College, Department of Pharmacy.
 Department of Pharmacy, University of Wisconsin.
 Total, 28.

The following Colleges of Pharmacy have discontinued their two-year courses:
 College of Pharmacy, University of Michigan.
 College of Pharmacy, University of Minnesota.

REPORTS FROM THE STATE BOARDS OF PHARMACY.

The reports from the state boards indicate that pharmacists are awake to the importance of legislation in the advancement of our profession. Many states have materially strengthened their narcotic laws which was to be expected after the passage of the Harrison Law. Four states, Iowa, Illinois, South Carolina, and Oregon, have secured prerequisite laws. Many more tried for them, which indicates that before many years all of our states will have prerequisite laws.

I wish to call your attention in particular to some unusual laws, namely, Registration Law of Oklahoma, Advertising Law of North Carolina, Registration Law and Board Appointment Law of South Carolina, and Registration and Education Law of Illinois.

The reports of the several states are as follows:

CALIFORNIA:

The Poison and Itinerant Vendors Law will be in force for two more years.

COLORADO:

Bill passes permitting state board of pharmacy to join N. A. B. P. and reciprocate with other states, also permitting state board of pharmacy to employ special council.

CONNECTICUT:

Penalty for violation of Itinerant Vendors Law was changed from forfeiture of five dollars per day to direct penalty of not more than \$100.00 or imprisonment for not more than 60 days or both.

A bill making the possession of narcotics by unlicensed persons punishable by fine or imprisonment or both became a law. Possession of narcotics by anyone is *prima facie* evidence of guilt.

ILLINOIS:

On July 1 of this year the Department of Registration and Education succeeded to the powers and duties vested by law in the Board of Pharmacy.

Practically all of the arms of the state government have been consolidated into nine general departments, the object being efficiency, economy and the centralization of authority. The Fiftieth General Assembly amended the pharmacy law in two particulars: namely, providing that an applicant for examination as registered pharmacist, who was not registered as an apprentice, assistant pharmacist or local registered pharmacist prior to July 1 of this year, shall be a graduate from a college or school of pharmacy that is recognized by the Department of Registration and Education as being reputable, etc., and also providing a penalty for any person who forges the name of a licensed physician, licensed dentist or licensed veterinarian to a prescription calling for narcotic drugs.

INDIANA:

Pure Advertising Law eliminates "fake" goods.

Bone Dry Law to take effect April 1918. An appropriation of \$5000.00 to state board to enforce the narcotic act.

Itinerant Vendors and Prerequisite bills introduced but were defeated.

IOWA:

A prerequisite law was enacted. It was published in October issue, Journal A. Ph. A., p. 928.

Iowa Board of Pharmacy adopts some new rules.

Rule 12.—Revokes certificates of pharmacists for illegal sale of liquors.

Rule 13.—Defines, in a way, the kind of practical experience that will be accepted by the board. Will not recognize as experienced those who are employed in drug stores chiefly as fountain clerks, or in capacities where their work is not in a measure connected with the compounding of medicines.

Rule 14.—Before any vendor will be licensed by the Board, the company by whom he is employed must furnish a list of all their vendors doing business in Iowa.

Rule 15.—The latest editions of the U. S. P. and N. F. must be in every drug store, either separate books or combined in one of the dispensaries.

KANSAS:

No changes. Bill to increase dues for registration and make all registered pharmacists members of state association was defeated.

Bill putting funds of the state board of pharmacy in the hands of the state auditor was defeated.

Bill requiring everybody selling medicines to be registered pharmacists was defeated.

MASSACHUSETTS:

A stringent narcotic law was passed. Possession of narcotics by persons not legally qualified is *prima facie* evidence of guilt. Unlawful for any veterinary surgeon to prescribe any narcotics for the use of or in such manner that it may be used subcutaneously by a human being. Unlawful for anyone except a duly authorized person to have in his possession a hypodermic syringe or needle or any instrument adapted for the use of narcotic drugs by the subcutaneous injection. The sale of such instruments is completely controlled. Boards of registration in pharmacy, medicine, dentistry, and veterinary medicine are given power to revoke licenses under certain conditions.

Any state wishing to change its narcotic law will do well to consult this law.

MICHIGAN:

The liquor law was passed with all the provisions suggested by the Michigan State Pharmaceutical Association.

Amendment to narcotic law passed, making possession of narcotics evidence of guilt unless lawful possession can be proven.

The prerequisite bill killed on floor of Senate.

Bill amending (practically nullifying) the "25 year service" law was killed in committee.

MINNESOTA:

Some laws up for consideration, but none passed. Prerequisite bill and peddlers bill were killed.

MISSISSIPPI:

No change anticipated unless there is a more stringent law controlling the sale of narcotics. Legislature has not convened since June 1916.

MONTANA:

No changes in pharmacy law. Bill to give registration without examination to graduates of the University of Montana, Department of Pharmacy was defeated. A bill, taking restrictions off poisons used in agriculture, was also defeated.

NEW JERSEY:

A new pharmacy law asked for. A splendid bill was introduced and supported with energy by the legislative committee of the New Jersey Pharmaceutical Association, and was passed by both branches of the legislature, but disapproved by the governor. Any state seriously considering a new pharmacy law will do well to consult a copy of this bill.

NEW YORK:

Changes in Narcotic Law.

- 1.—Chloral has been dropped from the list of narcotics.
- 2.—If a prescription is issued to a person addicted to the use of narcotics, a statement must be made upon it to the effect that it is issued in a case of addiction.
- 3.—It shall be lawful for a physician to prescribe narcotics in the case of addiction if a personal physical examination discloses that the person is addicted to their use, provided the physician acts in good faith and the drugs are prescribed for the purpose of relieving pain or curing the habit.
- 4.—Order blanks must be made in triplicate and one copy kept, one given to the party from whom drug is ordered, and one filed with State Department of Health or City Health Officer.
- 5.—Every physician, institution, hospital, or sanitarium must keep a separate record of narcotics prescribed for persons addicted to the use of narcotics, and on the first day of each month shall report to Department of Health, the name, age, and residence of each addict for which they have prescribed. These records are private and not open for inspection except by duly authorized persons, and any person who shall disclose any part of such records, except in duly authorized procedure, shall be guilty of a misdemeanor.
- 6.—None but duly authorized persons may have in their possession a hypodermic syringe or hypodermic needle unless they have a certificate from a physician for the same. If they have these instruments at the time of taking effect of this act, they may retain them provided they secure a certificate from a physician, dentist, or veterinarian for the same.
- 7.—Local boards of health may supply narcotics to persons addicted to their use under such regulations as the State Department of Health may prescribe.

NORTH CAROLINA:

A stringent law controlling the sale, offering for sale or advertising certain proprietary or patent medicines makes it unlawful for anyone to sell, offer for sale or advertise in any way any proprietary or patent medicine or remedy purporting to cure cancer, consumption, diabetes, paralysis, Bright's Disease or any other diseases for which no cure has been found, or any mechanical device whose claims for the cure or treatment of diseases are false or fraudulent. Enforcement of the act shall be under the supervision of the N. C. State Board of Pharmacy. Registered pharmacists must report any violations of this act. If they fail to do so, their license will be revoked.

The state pure food law was amended by incorporating the Shirley Amendment.

NORTH DAKOTA:

Passed amendment to the narcotic law making it *prima facie* evidence of violation of the law for others than physicians, or registered pharmacists to have narcotics in their possession.

OHIO:

- A law stating that the State Board of Pharmacy shall enforce the laws relating to the practice of pharmacy. Fines assessed and collected shall be paid into the state treasury.
- A law permitting reciprocal registration under certain conditions.
- A law controlling revocation of license and reissuance of same.

OKLAHOMA:

- An amendment making each registered pharmacist a member of the State Pharmaceutical Association. The fee for re-registration is three dollars, one of which shall be paid to the State Pharmaceutical Association.

OREGON:

- Changes. Beginning January 1, 1919, a candidate for registration must have attended at least one year in a high school. Beginning January 1, 1921, all candidates for registration as pharmacists or assistant pharmacists must have attended at least one year at a college of pharmacy recognized by the A. C. P. F. Beginning January 1, 1922, all candidates for registration as pharmacists or assistant pharmacists must be graduates of a college of pharmacy recognized by the A. C. P. F.

The board was granted power, in a way, to regulate the sales of preparations that are handled by druggists and which can be used as an alcoholic beverage or for some medicinal purpose.

PENNSYLVANIA:

New Pharmacy Law.

Section 2.—Excepts teachers or instructors in any institution teaching pharmacy from being eligible to appointment as members of the board.

Section 7.—Requires the latest revision of the U. S. P. and edition of the N. F. to be kept in every pharmacy.

Section 9.—Makes it unlawful to impersonate an applicant in the examinations.

Section 13.—Dispensing and selling of poisons must be under strict supervision and in the presence of a pharmacist or assistant pharmacist.

Section 13.—Medicines only which conform to the standards fixed by the laws of the state may be dispensed by physicians to their bona fide patients.

Section 13.—The sale of commonly used household drugs by unregistered dealers is confined to original packages prepared ready for sale by manufacturing pharmacists, etc.

Section 15.—The use of the titles pharmacist, assistant pharmacist, druggist, apothecary, drug store, or any title having the same meaning is limited to registered persons.

Section 17.—Prescriptions must be in the custody of the pharmacist who compounds them for at least 5 years.

An amendment to the Food and Drugs Law.

1st. If purity or strength differs from that of the legal standards, the purity or strength must be plainly stated in juxtaposition with the official standard of strength, quality, and purity.

2nd. The Shirley Amendment was incorporated.

3rd. The duly authorized agents of the law shall have the right to enter any place where drugs are compounded, dispensed, or sold for the purpose of purchasing samples. They also have the right to purchase samples and if any person prevents these duly authorized agents from entering a place where drugs are compounded, dispensed or sold, or prevents them from purchasing a sample for the purpose of examination they shall be subject to a fine of ten dollars and costs of prosecution.

New Narcotic Law.

The law controls the sale, distribution, or giving away of the ordinary narcotics and gives the usual exemption to narcotics in small quantities except in case of cocaine which is entirely controlled.

An important proviso prevents the sale, distribution, or dispensing of narcotics in any quantities to persons addicted to their use, except in pursuance of a prescription.

No narcotic drug may be sold, dispensed or administered to a person addicted to the use of narcotics unless they are given for the cure or treatment of some malady other than the drug habit. However, if a physician desires to undertake the cure of the opium

habit, he may prescribe or dispense opium or its derivatives to a person addicted to the habit, if they are prescribed in good faith and not merely for the purpose of satisfying a craving for the narcotic. In such cases the physician must make a physical examination of the patient and shall report, in writing to the proper health officer, the name and address of the patient together with his diagnosis and amount and nature of the drug prescribed in the first treatment. When a patient leaves his case, he shall report to the health officer the result of his treatment.

Narcotics cannot be prescribed or dispensed except after a personal physical examination in the case of both man and other animals. Physicians must keep records of narcotics dispensed.

The remainder of the law is much like the National Narcotic Law.

SOUTH CAROLINA:

Law changed so that State Pharmaceutical Association shall elect the members of the Board of Pharmaceutical Examiners and the Governor shall commission said members. The president of the Association shall fill vacancies, and the Governor shall commission them for the remainder of the unexpired term.

After July 1, 1918, applicants for registered pharmacists must be graduates of schools of pharmacy recognized by the said board. A school of pharmacy to be recognized must require at least two years of high school for entrance.

All pharmacists on or before the 1st of November must register with the State Pharmaceutical Association and pay one dollar registration fee to the secretary of the Association; said fees to be used to enforce the pharmaceutical laws of the state.

Reciprocal registration is provided for in the law.

SOUTH DAKOTA:

Legislature passed a "Bone Dry" temperance law, voted by the people last November.

Druggists can sell only on prescription under strictest conditions and safeguards.

TEXAS:

Change from biennial to annual dues and the amount is one dollar annually.

UTAH:

Reciprocal fee was reduced from twenty-five dollars to fifteen dollars.

Itinerant vendors bill and bill for registration of all drug stores failed to pass. The secretary states that three druggists were elected to legislature, one Senator and two Representatives, the first druggist in either house for a good many years.

WISCONSIN:

No changes. The annual appropriation of five thousand dollars (\$5000) to continue the work of the Wisconsin Pharmaceutical Experiment Station was granted.

The following states reported no changes: Alabama, Arizona, Arkansas, Delaware, District of Columbia, Florida, Georgia, Idaho, Kentucky, Louisiana, Maine, Maryland, Missouri, Nebraska, Nevada, New Hampshire, New Mexico, Rhode Island, Tennessee, Vermont, Virginia, Washington, West Virginia and Wyoming.

JACOB DINER.—I move that the report be received and published, but I wish to rectify a slight error with reference to the four years' high school requirement for degrees other than that of Ph.G. As far as New York state is concerned, every school therein requires four years' high school previous to entering for the degree of Ph.C. or Bachelor of Science of Pharmacy or Doctor of Pharmacy.

William C. Anderson seconded the motion, and after some further discussion it was further moved that the Association be requested to have reprints made of the legislative report. The motions were carried and a rising vote of thanks was given the Secretary.

The next order of business was the report of the Committee on Patents and Trade Marks. This was read by Chairman F. E. Stewart.

L. E. Sayre moved that the report be received and take the usual course. In seconding the motion Jacob Diner proposed the amendment that the resolution therein be referred to the Committee on Resolutions; this was accepted and after some discussion the motion carried. (The report with discussion thereon will be printed under Committee Reports.)

The following papers were read and referred for publication:

"Pharmacology and the Recognition of Professional Pharmacy by the United States Government," by F. E. Stewart.

"Military Recognition of the Pharmacist," by L. E. Sayre.

"American Pharmacy," by C. T. P. Fennel.

"Fallacies in Popular Psychology of Salesmanship," by Charles O. Lee. (See p. 810, September issue.)

F. E. Stewart presented the following resolution:

"Resolved, that the American Pharmaceutical Association appeal to Congress asking that all patents and trade mark registrations pertaining to inventions and products of nations now at war with the United States be abrogated or rescinded by Congressional enactment until such war is ended."

After some discussion the resolution was referred to the Committee on Resolutions, without committing the Section for or against the proposition.

The following reports of committees were read and referred, the first to the Council and the second to the General Session of the Association:

Committee on Drug Reform, by L. E. Sayre, Chairman. (See p. 829, September issue.)

Committee on National Legislation, by John C. Wallace, Chairman. (To be printed.)

Nominations for officers were called for, and the following were nominated:

C. B. Jordan, of Lafayette, Ind., for Chairman;

W. F. Rudd, of Richmond, Va., for Secretary; and

R. A. Kuever, of Iowa City, Ia., F. W. Nitardy, of Denver, Colo., and F. E. Mollett, of Missoula, Mont., for Associates.

The first session of the Section on Education and Legislation was then adjourned.

DR. FRANK CRANE'S COMMANDMENTS OF SALESMANSHIP

3. Don't Argue.—Go with me in your talk, not against me. Lead, don't oppose. Don't show me where I am wrong. Dodge a square issue, and show me wherein you are right. Suggest. Don't antagonize. Argument as a rule results in irritation, not conviction.

4. Make Things Plain.—Don't use any words I don't understand. You can explain the most complicated matter to a washwoman if you know your subject perfectly and practice using simple language. Don't air your technical knowledge, and try to impress me. I want to be flattered, not awed.

SIXTY-FIFTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

INDIANAPOLIS, IND., AUGUST 28 TO SEPTEMBER 1, 1917.

(Second General Session, Thursday Afternoon, August 30, 1917.)

The Second General Session of the Sixty-fifth Annual Meeting of the American Pharmaceutical Association was called to order by President Frederick J. Wulling, at 2.30 P.M.

THE PRESIDENT: The first order of business is the reading of the minutes of the first session. (See p. 777, September issue.)

On motion, the minutes of the previous meeting were approved as read.

THE PRESIDENT: The next order of business is the reading of communications.

(Secretary Day read communications from national and state associations, President Lehman of the New York Deutscher Apotheker Verein, E. L. Newcomb, Frank Crane and Mrs. Fletcher Howard.)

THE PRESIDENT: Unless you direct to the contrary, they will take the usual course, which includes mention in our minutes.

Upon motion, the General Secretary was instructed by rising vote to send a message of greetings to former Secretary Charles Caspari, Jr.

THE PRESIDENT: The next order of business is the report of the Nominating Committee.

(The Nominating Committee reported the names of nominees on page 828, September issue, with the exception of Leonard Seltzer and C. A. Mayo. The former was nominated in place of Edward Kremers, of Wisconsin, who expressed his appreciation for the nomination but declined the honor; the latter was nominated in place of S. L. Hilton, who resigned on account of dual representation as Council member.)

THE PRESIDENT: According to Chapter VII of the By-Laws, Article IV, "Vacancies which may occur in the Council shall be filled for the unexpired term, or terms, by the Association at its next annual meeting." We have before us the business of filling the unexpired term of Thomas F. Main.

H. M. WHELPLEY: If it is in order, Mr. President, I would like to present the name of Mr. John G. Godding, an ex-President of the Association, as a candidate to fill the vacancy in the Council caused by the death of Mr. Thos. F. Main.

Motion seconded, and after voting, Mr. Godding was declared elected to fill the unexpired term of Thomas F. Main.

SECRETARY DAY: There is another vacancy caused by the death of Dr. W. C. Alpers, whose term of office expires in 1919, to be filled in the same way.

H. V. ARNY: I desire to place S. L. Hilton in nomination.

Nomination seconded and afterward, by vote, elected. This created the possibility of dual representation and Mr. Hilton resigned as nominee. (See report of Nominating Committee in these minutes.)

Caswell A. Mayo was then elected a nominee for the Council in the place of S. L. Hilton.

THE PRESIDENT: The next order of business will be the reading of the minutes of the Council in abstract form.

EDITOR EBERLE: On account of the illness of Secretary England, he has asked me to read the minutes of the last meeting. (See Council Business, October issue, pp. 914 *et. seq.*)

The minutes were approved.

THE PRESIDENT: Last year, a Special Committee on President's Address was appointed. That committee is ready to report, and I will ask Chairman J. H. Beal to present the report on President Alpers' Address.

The report was read.

THE PRESIDENT: You have heard the reading of this Committee's report. What is your disposition of the report of the Committee on President's Address?

T. J. BRADLEY: This matter has been one that has perturbed and perplexed the Association and its officers for a long time. It has been very carefully studied by some of our most representative and trustworthy members, and I believe we will gain a great deal if we dispose of it quickly now, after this long study. Therefore, sir, I move you that we accept this report as presented and adopt all of its recommendations.

Motion seconded.

JACOB DINER: I would like to offer a motion, before acting on the motion, that the minority report, as suggested by Chairman Beal, be read. This is an amendment to the motion. I am in favor of the motion of Dr. Bradley, but I do think that inasmuch as Chairman Beal spoke of a minority report, who might wish to make a supplementary recommendation, that we should hear what that recommendation is.

THE PRESIDENT: I did not understand the Chairman of the Committee to have so stated.

JACOB DINER: The substance was that they had authorized him to make a statement, and I think the proper thing to do is to make the statement.

THE PRESIDENT: Then this is a motion to amend. Is it seconded?

Motion seconded.

T. J. BRADLEY: I object to the entertaining of that motion to amend as being unnecessary and out of order. I had no intention in offering my motion to limit debate on that motion.

THE PRESIDENT: That was the idea of the President when he said he did not understand the Chairman of that Committee to have said that the minority wanted to report as a committee. I wonder whether those on that Committee who did not vote with the majority wanted to make a minority report, or whether they wanted to discuss the motion. However, we must proceed according to parliamentary rules. We have this amendment to the motion before us.

T. J. BRADLEY: I do not get the drift of the motion to amend.

THE PRESIDENT: The motion to amend was to the effect that if there was a minority report, the minority report should be received. Is there such a minority report? (No response.) My suggestion is that those who did not vote with the majority, but with the minority, speak to the first motion, and in this way save time. The motion is now before us. We can only speak upon this motion to amend.

JACOB DINER: My motion was based upon the understanding, and I think I understood correctly, that the minority report is to be read. I am perfectly willing to have it read at the discussion, as long as we hear the minority report. If it will expedite matters, I am willing to withdraw my motion.

THE PRESIDENT: Does the seconder of the motion consent to the withdrawal?

(The seconder withdrew the second of the motion.)

THE PRESIDENT: There is now the original motion before us, and it is open for discussion, and Mr. Hopp has the floor.

LEWIS C. HOPP: I dislike very much to see any part of this address published, knowing the conditions under which Dr. Alpers had been laboring, and his connection with the Cleveland School of Pharmacy was such that it will not do anyone interested in the American Pharmaceutical Association any good to ever publish a line of this address. Being a member of that Committee, I would rather not say anything about the affairs at Cleveland, but if you wish to hear

any thing about them, the Secretary of the Cleveland School of Pharmacy is present, and he can give you all the information you desire. I would prefer to see this whole matter dropped without any discussion or publication—forget it. We in Cleveland would rather see the whole thing forgotten than to have even a line published in the proceedings.

HARRY B. MASON: It seems to me, Mr. President, that this matter is fairly clear cut. As I see it, it resolves itself into two propositions; one, whether we shall adopt the idea of the majority of the Committee, and publish the address, with corrections, or, second, whether we shall adopt Mr. Hopp's idea and forget the address. I can well see the idea of Chairman Beal in wanting to publish the address; that is the view of a fair man who desires to give every one his day in Court. Although a year late, to let President Alpers' address be published without corrections, I think would be a great mistake. In the first place, it would consume thirty or forty pages, not to say anything in regard to expense in connection with same, and it would give publicity to a lot of stuff that no one is interested in any more. Why exhumate something which has been buried for a year for the purpose of dissecting it? I therefore approve of Mr. Hopp's suggestion.

It seems to me that we can vote on this matter intelligently. I do not desire to make any motion which will force the issue, but in order to put it before the body in such a fashion that we can vote intelligently on it, and can express our opinions, I would like to offer a substitute, that the address of President Alpers of last year be not published, and that it be forgotten from now on.

Motion seconded.

R. A. LYMAN: Mr. President, as a member of that Committee, it is only fair that I should make a statement. You will remember that at Atlantic City last year I did not sign the report which the Committee made, and for this reason, I did not know what was right. After a year of thought, and of as careful study as I could give the matter, I find myself at this moment in about the worst predicament of my life, in my attempt to treat everybody on the square. However, after considerable deliberation, I have come to this conclusion, and my opinion is very much like that of Mr. Hopp, but it is on an entirely different basis. Mr. Alpers is dead. I do not see where we can gain anything by opening up a discussion, printing an address, and then printing a report. If anybody attempts to understand that report who is not familiar with the matter, the study of the situation and the study of that report will require just as great study as the original address itself.

I have felt, knowing as I have learned since, that Mr. Alpers was a very sick man, and I do not believe that Mr. Alpers in his well days would have written an address just as he wrote that one. Anybody who makes a careful study of the address will see that there were inconsistencies in the address itself, even if you know nothing about the history and conditions connected with the subject. He was a very sick man, and it seems to me the fair thing to do, both to Mr. Alpers, who has passed away, and to American pharmacy, is just to forget all about the matter and begin anew with the recommendations of President Wulling.

THE PRESIDENT: We are talking to the substitute motion. Is the Chair correct? The substitute motion was made and seconded.

HARRY B. MASON: The motion was that the address of President Alpers be not published.

THE PRESIDENT: Do you include the report of the Committee?

HARRY B. MASON: That the whole thing stands or falls together.

GEO. M. BERINGER: We spent two sessions at Atlantic City in discussing this address. We have taken up a large portion of this afternoon; it has occupied the attention of a very able committee during the year, and it seems to me we now have a knowledge of the condition of the man who wrote that address. I do not think that it is right to publish the address in the proceedings of this Association.

It would be unfair to this Association and unfair to Dr. Alpers, and uncharitable to his memory to publish an address of this kind at this time. I sincerely hope the Association will permit the report of the Committee to be received, and I therefore make a motion that the report of the Committee be received, and that the President's address, and the accompanying report thereon, be laid on the table.

Motion seconded.

THE PRESIDENT: A substitute for the substitute has been offered and seconded. Do you call for a vote, or will you discuss it?

(The question was called for by many members.)

F. H. FREERICKS: Mr. President, I want to testify, in the first place, to the very high regard in which I held—and I am now speaking to the substitute motion—of the very high regard in which I always held Dr. Alpers. Many times I have felt thankful to him for enabling me to accomplish the little work that I have been able to accomplish. I thoroughly appreciate the motive that prompts the substitute motion. I was present at the Atlantic City convention, and at least two or three other members of the Association, who are not present to-day. Those members heard that address, and they carried away with them various thoughts. Some of them will live fifty years from now, and they will have those thoughts in their minds fifty years from now. I put before you that fact, and then ask why not publish, pitiable though it may be, I ask, is it not better to publish that address, so that all the members who were present at that time, and who since have spoken in one way or another to other members, so that all may know the exact conditions that existed, and have the benefit of this most splendid report that your Committee has made? I hope the substitute motion will be defeated, Mr. President.

H. M. WHELPLEY: Sentiment is human and commendable. I have seldom seen the American Pharmaceutical Association carried away by sentiment, by anything but careful, deliberate reasoning, but I believe that a number of those who are here now and recall the man who presided over this organization a year ago, are thinking of him, his physical condition, and those commendable things that Mr. Hopp has said, and are anxious to cover up and forget the whole affair. As the previous speaker has very forcefully and truthfully said, it is not the dead that we are here to consider, but it is the living, and the living is the American Pharmaceutical Association. For the future, as well as those members who may live for fifty or seventy-five years, I feel this unfortunate incident should be closed up by a publication of the affairs as we have them before us to-day. One speaker said, "Let us close it and forget it." That does not close it up; that leaves it in the most unfortunate condition, where those who are not here cannot understand what took place, and they will say, "Oh, well, that was covered up." Let us place in our records, no matter how much space it occupies, the statements as we have them before us to-day, and the report of the Committee, together with the address of Dr. W. C. Alpers.

THE PRESIDENT: Is there any further discussion?

(The question was called for.)

THE PRESIDENT: The question has been called for. The vote is on the second substitute.

GEO. M. BERINGER: The motion was to receive the report and lay it on the table, that carries with it the address and the whole thing.

THE PRESIDENT: You mean that the address and the report be laid upon the table?

GEO. M. BERINGER: Yes.

(Shouts of question, question.)

THE PRESIDENT: The question is called for.

WM. C. ANDERSON: A point of order. The simple calling for the question does not put the question before the immediate body. If I am sustained, I would just like to make this point, that a motion to lay on the table would simply place

this matter in a position where at some subsequent meeting this might be taken up again, and this whole argument opened up.

THE PRESIDENT: The Chair so rules, but there is also another motion before the House. If the maker of the motion will withdraw his motion, we can act on this one.

GEO. M. BERINGER: I would like to amend the motion.

THE PRESIDENT: Probably you had better withdraw your motion and make a new one.

GEO. M. BERINGER: I move that the report of the Committee be received, and that President Alpers' address and the accompanying report thereon be not published.

THE PRESIDENT: That is Mr. Mason's motion.

HARRY B. MASON: I will withdraw my motion.

(The seconder also withdrew his second.)

THE PRESIDENT: Mr. Beringer's motion is before the House, if the Chair rules correctly. Does he so rule? He appeals to the floor. No response. All those in favor of the motion will signify by saying "Aye." Contrary "No." A division is called for; the Chair is in doubt.

GEO. M. BERINGER: The motion that I made was that the report of the Committee be received, but that the report of the Committee and the address be not printed.

THE PRESIDENT: Any motion regarding which there may be any doubt, which was made by Mr. Mason, has been withdrawn by him. There is no doubt by the House concerning the motion before it.

C. B. JORDAN: What becomes of this address, and this Committee's report, if this prevails?

THE PRESIDENT: The Committee report has been received, as far as it has been read, but it will not be published, nor will the address be published.

C. B. JORDAN: It seems to me that we ought to keep a record of this address, and this report, to defend ourselves.

THE PRESIDENT: We must vote on the question before us before we can entertain any discussion along any other line. The motion has been put and a division has been called for.

E. F. KELLY: I desire to call your attention to Chapter II, Article IX, on the duties of the President and Vice-President, to the effect that the President shall preside at the meeting embodying general scientific facts, and discuss such scientific questions as may seem to him suitable for action, but no reference is made as to what shall be done with them.

THE PRESIDENT: There is power to publish the President's address.

WM. C. ANDERSON: I would like to ask one more question. Is it not a fact that this address was presented to this body, received and referred to the Committee, and that it became a part of our minutes, and that those minutes were approved by this Association?

THE PRESIDENT: No doubt that is so.

WM. C. ANDERSON: I raise the point that you cannot by vote, except by unanimous consent, strike that from the minutes of this Association.

THE PRESIDENT: The Chair asks for assistance from the floor on this question. Who will render it?

J. H. BEAL: In my opinion, the House can at any time annul a former action by it by taking a subsequent action. My opinion would be that we could adopt some action contrary to our former action. That is perfectly appropriate and in compliance with parliamentary rules.

WM. C. ANDERSON: You cannot strike it from your minutes.

J. H. BEAL: The Committee felt that it was the place of this Association to determine what should be the destiny of the address, and of the report, and that by putting it into the form of a recommendation you would have the option of

doing with it what you saw fit, and it would be in a clear-cut manner before you. The responsibility is yours. The Committee has no feeling in the matter whatever. The greatest desire of the Committee has been to get the task disposed of, which has been a very unpleasant one. If it is the desire of the Association to refuse the publication of both the address and the report, and perhaps to place them in a secure cover in the archives of the Association for future reference, if reference should become necessary, I feel sure it would be entirely satisfactory to the Committee.

E. F. KELLY: I would like to ask if certain portions of the address have not been eliminated. As I understand the report of the Committee, portions of the original address have been eliminated.

J. H. BEAL: The Committee has not taken the liberty of changing anything in the address. The original address as handed to us, is turned over with the report.

WM. C. ANDERSON: In order that the vote may be taken direct, and not on the point of order, I withdraw the point.

THE PRESIDENT: All those in favor of the motion will please rise and the Secretary will count the votes. The effect of the motion, if carried, will be the elimination from the records of the Association of the address and the report of the Committee. They will not be in the printed proceedings. I should say they would be preserved in the archives, however. All those voting in the negative will please rise.

(The result of the vote was 59 in favor of the motion and 39 voting in the negative. The motion was therefore carried.)

T. J. BRADLEY: If I am in order, I would like to have the matter cleared up, and suggest that the discussion be omitted from the records and our publication.

H. M. WHELPLEY: I move it be understood that the discussion on this subject be a part of our minutes.

Motion seconded by J. H. Beal.

T. J. BRADLEY: I was only asking for information.

The motion to publish the discussion was voted on and carried.

WM. C. ANDERSON: I would like to move that this address and the report of the Committee be preserved in the archives of this Association.

(Motion seconded, voted on and carried.)

EDITOR EBERLE: I think that the members of this Committee ought to have the hearty and sincere thanks of this Association for their work, which I know was a duty that they did not desire, but which they have performed well and faithfully. I therefore move you that a vote of thanks be tendered to the Committee.

(Motion seconded and carried by a rising vote of the convention.)

President Wulling then called for the report of the Treasurer.

Treasurer H. M. Whelpley read his report.

(The report of the Treasurer has been printed, August JOURNAL, 1917, pp. 741 to 751. The supplementary report will be printed in the December number.)

THE PRESIDENT: You have heard this very excellent report of the Treasurer. What is your pleasure with the report?

H. V. ARMY: I move that it take the usual course.

Motion seconded.

GEO. M. BERINGER: I want to congratulate the Association in having such an excellent treasurer. I would like to know how the Special Fund of the National Formulary is kept.

H. M. WHELPLEY: It is kept as a separate, distinct fund.

(The motion carried.)

THE PRESIDENT: I will now call upon the Chairman of the Committee of the Time and Place of next Meeting, Mr. Snow.

The report follows:

REPORT OF THE COMMITTEE ON TIME AND PLACE.

PRESIDENT AND MEMBERS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION:

Your Committee on Time and Place begs to report that the Association has been invited to meet in the following cities in 1918:

San Francisco, Calif., by Convention League.

St. Joseph, Mo., by Commerce Club.

St. Louis, Mo., by Convention and Publicity Bureau.

Niagara Falls, N. Y., by Bureau of Conventions.

Cincinnati, Ohio, by Chamber of Commerce, Hotel Men's Association, and the Mayor.

Columbus, Ohio, by Conventions and Publicity Association.

Toledo, Ohio, by Convention and Tourist Bureau.

Charleston, S. C., by Chamber of Commerce.

Asheville, N. C., by E. V. Howell.

Memphis, Tenn., by Chamber of Commerce.

Chicago, Ill., by Association of Commerce, Chicago Branch A.Ph.A., and the Illinois Pharmaceutical Association.

After a careful analysis of conditions which are likely to surround the 1918 meeting of the Association, it is the unanimous opinion of your Committee that the best interest of the Association will be served by meeting in Chicago next year, the exact date to be fixed by the local committee.

THEO. J. BRADLEY,
F. W. NITARDY,
S. L. HILTON,
CLYDE M. SNOW, *Chairman*.

C. M. SNOW: I move the adoption of this report.

Motion seconded.

EDITOR EBERLE: A good many of the members who would probably be interested in this matter are attending another session.

SECRETARY DAY: I would suggest that Mr. Eberle advise the House of Delegates that we are about to vote on time and place of next meeting, in order to give those who desire to vote an opportunity to do so.

THE PRESIDENT: While we are waiting for Mr. Eberle to notify the House of Delegates we might take up another subject. Let me say to the members that Secretary England, of the Council, who is in attendance, has been ill and has been in his room, and even in bed. He is one of the hard workers of the Association, and I think it would be not only a matter of courtesy, but one of consistency, for us to send a delegate from this meeting up to his room to express to him our sympathy in his recent illness, and to express the hope that he will be fully recovered from his sickness, so he can join in our deliberations. Unless you object, I will appoint one gentleman to convey this message to him, and that gentleman will be Mr. Bradley.

The report of the General Secretary was then called for and read.

(See report in October issue, pp. 908 *et. seq.*)

(The report was accepted to take the usual course.)

A vote was taken whereby Chicago was unanimously elected for the Sixty-sixth Annual Convention of the American Pharmaceutical Association.

President Wulling then called for the report of the Committee on Resolutions. This was made by Jacob Diner, who reported verbally, submitting four resolutions.

The first proposed changes in the assay process for Cannabis. This resolution was referred to the Committee on the United States Pharmacopoeia (see October issue, p. 877).

The second resolution was concerned with the status of pharmacists in the Army and Navy and came from the druggists of Gonzales, Texas. The resolu-

tion favored the establishment of a pharmaceutical corps in the U. S. Army and the advancement of pharmacists and pharmacy in all branches of the Government Service. It was referred to the Committee on Status of Pharmacists in the Government Service.

The third resolution concerned the representation of the American Pharmaceutical Association in the National Drug Trade Conference, providing also for more specific authority. This resolution was referred to the Committee on National Legislation and was reported on in the Final General Session.

The fourth resolution was as follows: "We, the members of the American Pharmaceutical Association, in convention at Indianapolis, Ind., August 28, 1917, adopt the following resolution: '*Resolved*, that we urge the members of Congress to pass at once as a war measure the Susan B. Anthony Amendment, thus making our Government a true democracy'." This resolution was tabled.

THE PRESIDENT: The next order of business is the report of the Committee on President's Address.

Ex-President Geo. M. Beringer assumed the chair while the report was being read. The report follows:

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

TO THE MEMBERS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION:

Your Committee desires to congratulate the Association upon the privilege it has had of hearing an executive address so lofty in ideals, so perfect in diction and so admirable in details as the one presented by President Wulling. These qualities made it an easy task for your Committee to arrive at the following conclusions concerning the topics dwelt upon in it:

1. The recommendation of the President

"That this Association through a strong and suitable Committee invite all other pharmaceutical associations, national, state and local, to coöperate in the establishment of the proposed federation and concurrently in raising a million dollars for the purposes I have outlined."

is approved by the Committee.

2. The recommendation

"That a suitable committee be named to study the functions and operation of the Houses of Delegates of other associations and a plan formulated and presented to the Association outlining in detail how our own may be improved."

is also approved.

3. The recommendation

"That the Association continues using its fullest influence toward higher academic as well as professional qualifications on the part of those entering the ranks."

is also approved.

4. Upon the recommendation that the meetings of the Association be held during the winter months, the members of your Committee do not find themselves in entire accord. They, therefore, without further comment, refer the matter to the Association for general discussion.

Respectfully submitted,

CHARLES E. CASPARI,
RUFUS A. LYMAN,
CHARLES H. LAWALL,
J. A. KOCH,
H. V. ARNY.

CHAIRMAN BERINGER: Gentlemen, you have heard the report of this Committee on President's Address. What is your pleasure?

H. V. ARNY: I move that the report of the Committee be adopted as read; that the report be received and the recommendations adopted.

(Motion seconded, voted on and carried.)

THE CHAIRMAN: The Chairman understands that the motion adopts all these recommendations of the Committee. The question is called for. All those in favor of the motion please signify by saying "Aye." Contrary "No." The motion prevails.

There is still a matter in this report open for discussion—the recommendation as to the change of time of meeting of the Association. That matter is now before the Association for consideration.

H. V. ARNY: I will say, we were not unfavorable to the idea, and many of us thought that perhaps the matter was advisable. But looking at it from the standpoint of the majority, we were in doubt as to whether a great many who are interested in the Association, and interested in colleges, could find time to attend the convention in the winter, and for that particular reason we made no recommendation, so we would like to hear the views of the other members on this question.

H. M. WHELPLEY: This is a suggestion worthy of careful consideration. It comes to most of us rather new through the President's Address, and the report of this Committee. I believe we should not drop it. However, I do not feel that we are quite ready at this time to decide in regard to it, especially in this Session. I move that the matter be referred to a Special Committee of Three, to report at the next annual meeting.

Motion seconded by H. V. Arny.

After some discussion the latter motion was put and carried.

(After the President's Address had been disposed of, President Wulling assumed the Chair.)

THE PRESIDENT: The next order of business will be the report of the Special Committee on National Defense, and the regular Association Standing Committee on the Status of Pharmacists in the Government Service. Mr. Hilton is chairman of both Committees, and I will call upon him to present both of the reports.

These reports were read by Chairman S. L. Hilton. (See Committee Reports, pp. 1008-11.)

Chairman Hilton commented verbally on his reports and in his statements showed very clearly wherein pharmacists could render valuable service not only in conserving and protecting the health and life of the men in the Service but also in purchasing and manufacturing medical supplies, aside from the other duties, such as dispensing, etc.

THE PRESIDENT: You have heard these two excellent reports. What will you do with them? They contain some recommendations.

C. L. EDDY: I move that we accept the reports, and that we endorse and recommend the passage of the Edmonds Bill.

THE PRESIDENT: The motion was to adopt the reports as read, which includes the recognition of that bill in Congress now, by Edmonds, and to immediately communicate with Congress, notifying Congress of this action, endorsing that bill.

Motion seconded.

GEO. M. BERINGER: Do I understand the adoption of this motion carries with it the adoption of these two reports, and all the recommendations?

THE PRESIDENT: Yes.

GEO. M. BERINGER: Without any comment on the work, or anything else?

THE PRESIDENT: So I understand.

GEO. M. BERINGER: There are several matters in the two reports which I desire to present some information on to this Association. Mr. Hilton spoke about the Marine Hospital Corps. I desire to get some information about the proposed bill referred to by him.

S. L. HILTON: There is at present in course of preparation a tentative draft of a bill of that kind by representatives of the men in the Service, for the approval of the Surgeon-General. It would probably have been introduced before this, if it had not been for the various war measures. The conditions are these: If the men that have been with the Service for a number of years are sick or are injured or incapacitated in any way for duty, they can be

carried on the roll for a certain length of time with pay. If they have recovered sufficiently to go back to work, they are carried along, but without pay, and this bill provides that the Surgeon-General can put them on waiting orders at probably two-thirds of their pay, when they are off of duty. The result is that the men who have devoted their lifetime in the Service are not thrown out when they are not able to obtain a livelihood in any other place.

GEO. M. BERINGER: The main thing in connection with that Service is that no matter how long a man is in the Service he is not retired. If he is taken ill, he may receive thirty days' leave of absence, and if he does not recover, he is given thirty days' notice and then discharged. That is a very serious wrong, but we are now applying ourselves to correcting one thing, and then after that is done, we will take up some of these other matters.

Mr. Hilton has in a measure criticized the organization of the National Pharmaceutical Service Association. When I lay before this Association the reason for that organization and the work that it has been doing, you will understand why it was organized and that this was really for the welfare of pharmacy.

Three years ago, when I was president of this Association, Mr. Hilton knows that I was greatly interested in the work of his Committee on the Status of Pharmacists in the Government Service; that I then made a study of the situation and coöperated with him in every way possible. At that time, we were advocating the passage of the Hughes-Bacon Bill, without even a clear understanding of the provisions of the proposed measure.

I have in my hand a letter of the date of July 11, 1914, from Congressman James Hay then Chairman of the House Committee on Military Affairs, in which he advised me why that bill was delayed in committee and why it was not the bill that we wanted and should not be pushed. This letter reads:

July 11, 1914.

GEORGE M. BERINGER, ESQ.,
501 Federal St.,
Camden, N. J.

MY DEAR SIR:

Your letter with regard to the reorganization of the Army Hospital Corps has been received. The bills which have heretofore been introduced for the purpose of this reorganization have had for their object the reorganization of the entire Corps and have assumed that the Corps is composed altogether of pharmacists. The Army Hospital Corps consists of thirty-five hundred men, comparatively few of these men are pharmacists and the bill for a general reorganization of this Corps does not at all reach what is desired for the pharmacists. The Hughes-Bacon Bill does not confer commissioned rank and that is what is desired I suppose. If commissioned rank is desired for the pharmacists of the Army a bill should be drawn with that purpose in view. Personally I favor such a bill. In answer to your question as to the prospects of legislation at the present session I do not think it probable that it can be accomplished.

Yours very truly,

JAMES HAY.

You will recall, gentlemen, that upon my recommendation the Committee was authorized to prepare and submit to Congress a bill providing for commissioned pharmacists in the Army. Up to two months ago, such a bill had not been prepared and submitted to Congress and it remained for some other interest than the A. Ph. A. to take such action.

In June last, a meeting was called at the College of Physicians and Surgeons of Philadelphia of those physicians whose age was considered as beyond the limit for active service in the Army, in order to formulate some means of presenting their services to the Government. The Army regulations preclude from active service physicians over thirty-five years of age and in the Reserve Corps if more than fifty years. This meeting was attended by many of the most prominent medical men and was presided over by that eminent surgeon Dr. William W.

Keen. A number of pharmacists were invited to attend that meeting and a resolution was adopted by these physicians requesting that the pharmacists likewise organize a pharmaceutical reserve corps to mobilize the pharmaceutical service possible to aid the Government in its war needs.

The pharmacists present, representing four organizations, the Philadelphia Branch of the American Pharmaceutical Association, Philadelphia Association of Retail Druggists, the Philadelphia Drug Exchange and the Philadelphia College of Pharmacy, decided to call a joint meeting of the members of their societies to consider this request of the physicians. At this meeting it developed that as there was no pharmaceutical corps in the American Army there could of course be no formation of a reserve corps. It was determined that the only way to mobilize the pharmaceutical interests and to work out appropriate means whereby the pharmacists could offer service to the country was to effect an organization for the purpose. As very little had so far been accomplished in the establishing of proper pharmaceutical service in the Army it was decided that this was an urgent national need that should receive our first attention.

If the National Pharmaceutical Service Association had not been organized what would be the situation to-day? Would this need of the service have been presented directly to the Secretary of War and to the Surgeon-General of the Army? Would this brief have been filed? Would a bill providing for the Pharmaceutical Corps in the Army be before Congress? You can only judge of the value of such an organization by the results accomplished, and I am quite willing to leave the necessity for this new organization to be judged by the results achieved.

At the very start, I wrote to Chairman Hilton, explained the situation that had developed and that we wanted to coöperate and aid him. I am not a member of the A. Ph. A. Committee on National Defense, nor a member of its Committee on Status of Pharmacists in the Government Service, yet, quite unexpectedly, I have been called upon to take up again work along the lines in which I had been working three years ago.

The right thing to do is to push this bill providing for commissioned rank for pharmacists in the Army. There should be a hearty endorsement of the Edmonds' bill and a committee should be appointed by the American Pharmaceutical Association to coöperate with other organizations to push this matter diligently to a satisfactory conclusion.

There is still another recommendation in this report to which I must most emphatically take exception; namely, that the Committee on National Defense shall be changed and that I shall be named as chairman. Mr. Hilton has performed the duties of the chairman of this Committee in a most admirable way and it would be an unfortunate mistake at this time to supplant him and, further, I believe that I can accomplish more for pharmacy in working along the lines of the responsibility, which, without solicitation or desire on my part, has been placed upon me.

S. L. HILTON: Mr. President, in regard to the remarks which Mr. Beringer has made, I want to state that that particular section criticizing the American Pharmaceutical Service Association in the report was put there for the reason that I have received a number of communications from pharmacists, few of whom are members of this Association, and if I remember correctly, they have not attended a session for years, raising an objection to that very thing. I wanted the atmosphere cleared up, and nobody could clear it up like Mr. Beringer has cleared it up. Mr. Beringer has coöperated with us, and by putting it as I did, I brought out that very point.

With reference to the other point, the suggestion made by me in regard to the chairman being changed, there is no one in this country who has all the data and facts with reference to pharmaceutical corps of pharmacists at his fingers' ends like Mr. Beringer has. There is not any one who can present those facts to committees in Congress, or to the Surgeon-General, or the Secretary of War as ably as

Mr. Beringer can. I am willing to serve on the Committee, but under the circumstances I do not believe that I can give you the best there is in me when I am chairman of that Committee.

CASWELL A. MAYO: Mr. President, there is no doubt but what we should endorse this measure.

I move the adoption of this motion.

GEO. M. BERINGER: Before this motion is put, I cannot accept this additional responsibility.

After some further discussion the motion was adopted but the appointment of the chairman was left to the incoming president.

The report of the Syllabus Committee was called for and referred to the Council.

The report of the Committee on Weights and Measures was presented by Caswell A. Mayo, and the resolutions therein adopted. (See p. 912, October issue.)

The report of the National Drug Trade Conference was presented by President John C. Wallace. The report was accepted and the recommendation for continued affiliation adopted. (To be printed.)

The Second General Session of the Association was then adjourned until Saturday morning, September 1, at 10 o'clock.

DISPENSING AND SALE OF ALCOHOLICS.

Apothecaries are permitted, under the exempting provision of Section 3246, Revised Statutes, to carry in stock distilled spirits and wines and to use same in the preparation of tinctures and other U. S. P. preparations, and in the compounding of bona fide prescriptions, and no special tax is required for the sale thereof, provided the spirits or wine is compounded prior to sale with drugs sufficient in character and amount to so change the character of the alcohol as to render it unsuitable for use as a beverage. The sale, however, of spirituous liquors or wines not compounded as above indicated, even on a physician's prescription and for purely medicinal purposes, renders the person making such sale liable to internal revenue special tax.

In the same way the sale of alcohol for bathing purposes, even on a physician's prescription, renders the person making the sale liable to internal revenue special tax. If, however, the alcohol before sale is rendered by the apothecary unfit for beverage uses in accordance with any formula approved for destruction of identity of alcohol in scientific institutions, in hospital departments (see T. D. 1757), no tax liability will be incurred, but the burden of clearly proving this is on the person making the sale. In general, exemption from liability to special tax, on account of filling physician's prescriptions, is secured to apothecaries by having the prescription itself specify the precise nature and amount of the ingredients to be added to the compound, with the result that the compound thus prepared is rendered, as above indicated, unfit for beverage purposes.

Care must be exercised in selling such preparations as tincture of ginger and beef, iron and wine; the latter must come up to the standard and the former must *not* be sold for beverage purposes.

MONTHLY RETURNS ON PROPRIETARY ARTICLES.

Manufacturers, producers and importers of proprietary articles (wholesale and retail druggists are rated as manufacturers of goods made by or for them and marketed under their own labels) must make monthly returns and pay 2 percent of the amount of their sales. October returns must be made on such goods sold from the morning of October 4th to the evening of October 31st.

The Bureau of Internal Revenue is not yet able to furnish blanks for monthly sales report, and until such blanks are furnished, no report for October need be made. If blanks are not available within a short time, the October sales may be included with the November sales report.

Manufacturers in making returns for goods sold during the month should make report of the net amount received for goods sold after they have deducted all discounts and transportation charges, including freight, express or parcels post.

COMMITTEE REPORTS

REPORT OF THE COMMITTEE ON THE STATUS OF PHARMACISTS IN THE GOVERNMENT SERVICE.*

TO THE PRESIDENT AND MEMBERS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION:

As Chairman of the above-named Committee, I herewith beg to submit the following report:

In my report last year I presented resolutions pertaining to the action of the Comptroller of the Treasury, ruling that the pharmacists in the Public Health Service were not entitled to the provisions of an Act of Congress, providing a slight increase in compensation, he holding that they were performing the same or similar services as in the preceding year. This question was properly presented to the Secretary of the Treasury and the Surgeon-General of the Public Health Service, as directed by the Association, by the General Secretary, but we have been unable to secure a change of ruling by the Comptroller.

A bill has been in the course of preparation for some time, providing for the placing of the pharmacists in the Public Health Service on waiting orders. When completed it will be introduced in Congress and we should give it our support.

Such a law is much desired and will have the effect of relieving a condition now existing whereby men in the service through sickness or disability would have something to fall back upon instead of being carried on the rolls without pay; the Surgeon-General favors such a measure and if properly drafted will receive his support.

The conditions at present in the Hospital Corps of the U. S. Navy are better than in the Army, but far from satisfactory, from the view-point of the pharmaceutical profession. The rank of pharmacist in the Navy is about equivalent to that of Ensign. The men are given this rank but perform no pharmaceutical duties. The Surgeon-General has frequently made the statement, they do not need the pharmacist.

In the re-organization of the Naval Service many of the Hospital Stewards have been promoted. Recently ten of the ranking members of the Hospital Corps were promoted and commissioned as assistant surgeons. What I will say with reference to the Army applies equally as well to the Navy, and if we can succeed in establishing a pharmaceutical corps in the army, we should then exert our endeavors in bringing about a recognition of pharmacy in the naval service.

PHARMACY IN THE U. S. ARMY.

With the declaration of war came the call to colors and the call for every one to "do their bit." The pharmacist, from a sense of duty and patriotism, felt that he could serve his country best along the lines he had specialized in and he looked to the Army branch of the service to do his duty and render assistance. Here he met an unsurmountable barrier, the statutes being specific and while providing for medicine, dentistry and veterinary medicine gave no recognition whatever to pharmacy, so that the best an applicant could do was to enlist as a private in the medical corps.

Pharmaceutical work, and most of it may be termed "canned pharmacy," is carried on by the enlisted men of the medical corps. Frequently, and I may say usually, the trained pharmacist is assigned to some duty that has no relation whatever to pharmacy and may be placed under the supervision of some one without sufficient pharmaceutical experience to enable him to pass an examination before a state board. Consequently the trained pharmacists, those possessing state licenses, while willing to serve their country, were not willing to enter this branch of the service under such conditions with little prospect of advancement and then only as non-commissioned officers, preferring to take their chances on being drafted.

Just why pharmacy has received no recognition in the Army, the same as the other branches of medicine, is hard to determine.

The Surgeon-General has on more than one occasion stated, "We do not need the pharmacist." Why? Certainly the men in the Army are entitled to as good attention and treatment when sick or wounded as they have in civil life. The majority of these institutions, including penal institutions, have their dispensaries in charge of educated licensed pharmacists. Are not the men

* Presented and approved in Second General Session of American Pharmaceutical Association, Indianapolis meeting, 1917.

in the Army entitled to as good service as is given criminals? Should not this country give its men in the Army as good if not better service than that which is given the men in the armies of foreign countries, England excepted, all of which have a commissioned "Pharmaceutical Corps?" We, as American pharmacists, feel that the Government is not taking advantage of the opportunities that have been offered and has not coördinated or coöperated in this particular line as they should have.

We deplore a duplication of the conditions of the Civil and Spanish-American Wars, the records of which show a larger number of deaths by disease than by bullets. The records of the Spanish-American War show 454 were killed and 5,277 died from disease.

Shall this condition continue through the lack of an earnest endeavor on the part of the American Pharmaceutical Association? We think not, and the records will show that we have placed before the proper officials all available data and followed this up by supporting a bill before Congress providing for the establishment of a pharmaceutical corps.

It would be well to emulate the lesson taught in the Russian-Japanese War by Japan, with its scientific and systematically organized medical department, including a pharmaceutical corps, the ranking officer of which is commissioned Lieutenant-Colonel, as the reduction of mortality from disease and wounds attracted world-wide attention.

Germany reports that 87 percent of the wounded are returned to the trenches, due to the highly scientific and efficient service of its medical corps and the able assistance of its pharmaceutical corps, whose ranking officer is equal to that of a general of a brigade.

President Wulling, recognizing the conditions immediately after the beginning of hostilities, presented to President Wilson and Secretary of War Baker, the conditions in a strong, forcible communication, and appointed a Committee on National Defense to take up with the officials these important questions and to coöperate with other organizations looking to the proper representation of pharmacy and the establishing of a pharmaceutical corps. This committee will report the result of its labors, so that it will be unnecessary to further go into detail at this time.

In closing, I want to urge that the members of this Association call upon their delegations in Congress to support H. R. 5531, prepared by a committee representing the drug trade of Philadelphia, a bill to create a pharmaceutical corps, and that each state association be requested to take similar action. Unless we work together on the proposition, which is only asking justice for an honorable profession, failure will inevitably follow and the endeavors already made will go for naught.

Respectfully submitted,

S. L. HILTON, *Chairman.*

REPORT OF THE COMMITTEE ON NATIONAL DEFENSE.

As Chairman of the Committee on National Defense, I herewith beg to submit the following report:

President Wulling, at the urgent request of many pharmacists, and immediately after the severance of relations with Germany, very wisely and properly addressed a communication to President Wilson, pledging the support and tendering the services of the American Pharmaceutical Association.

He likewise addressed a communication to the Secretary of War, with reference to the proper representation of pharmacists in the Army and also on the Advisory Commission to the Council of National Defense, pointing out clearly and forcibly what had been done in foreign countries as a proper recognition of pharmacy.

Secretary Baker replied in a friendly tone and enclosed a copy of a memorandum from Surgeon-General Gorgas, disapproving of any action being taken looking toward commissioning pharmacists in the Army and stating that the present methods in the Army were satisfactory. Dr. Martin, of the Council of National Defense, to whom the question of representation on the Advisory Commission was referred, replied that the question would receive due consideration; if it has, we have failed to learn of it.

President Wulling, with the concurrence of the Council, appointed a committee on National Defense, of which I was selected as the chairman. About this time the National Drug Trade Conference was to hold a meeting in Washington, and, as a number of members of our committee would be in attendance at this meeting, I called a meeting of the committee immediately following adjournment of the meeting of the Drug Trade Conference, to consider the situation, inviting

all of the representatives of the drug trade present to meet with us for the purpose of determining a line of action and also to secure greater coöperation and unison.

The Drug Trade Conference considered the question of pharmaceutical representation on the Advisory Commission, and by a very close vote directed the chairman to appoint a committee, of which I was a member, to communicate with the Secretary of War, for the purpose of securing representation for pharmacy and the chemical industries. Our committee met with the committee from the Drug Trade Conference and others and after considerable discussion decided that there should be unanimity of action and that we should proceed along the lines looking to securing representation on the Advisory Commission of the Council of National Defense, believing this could be accomplished by Executive order. We also believed that if we could secure this representation it would be a powerful aid in establishing a pharmaceutical corps.

The Committee of the Drug Trade Conference has done much work but has been unable to report any success. A difference of opinion has arisen in the Conference as to the functions of its committee and the committee has also discovered that to secure representation on the Advisory Commission an Act of Congress will be necessary amending the law and that it cannot be done by Executive order as originally contemplated.

Through the endeavors of President Wulling, Dr. Chas. H. Mayo, President of the American Medical Association, interested himself in the question of establishing a pharmaceutical corps, and at the last annual meeting held in New York the American Medical Association passed resolutions favoring the establishing of such a corps which were approved by the House of Delegates, published in their Journal, and forwarded to the Department. The Journal of the American Medical Association also published a strong editorial entitled "Justice to the Pharmacists" recommending the formation of a pharmaceutical corps. The action of the American Medical Association has been of material assistance to us and the good-will and coöperation of this association and the physicians has helped our cause wonderfully and deserves our thanks.

The pharmaceutical bodies and all branches of the drug trade in Philadelphia have been particularly active on the question of establishing a pharmaceutical corps in the Army and have done excellent work.

The Philadelphia Drug Exchange forwarded strong resolutions to the Secretary of War.

Many meetings were held and a committee was appointed with Mr. George M. Beringer as chairman to draft a bill, to be presented to Congress, creating a pharmaceutical corps. The bill has been drafted and introduced in the House of Representatives by Congressman Edmonds, and is known as H. R. 5531, and with the exception of a few minor corrections, which can be made in the Committee on Military Affairs, should receive our support and the support of every pharmaceutical and drug organization in this country.

For the information of the members present, I want to advise that the Maryland Pharmaceutical Association has endorsed the bill and has called upon the Maryland delegation in Congress to use their influence in securing its passage by Congress. Likewise the pharmacists of Gonzales, Texas.

Recently I received a circular announcing the formation of the National Pharmaceutical Service Association in Philadelphia, soliciting membership and apparently working for the establishing of a pharmaceutical corps. No doubt many of you have received this same circular. I have quite a few letters from pharmacists enclosing the circular with comments, showing that they were not in sympathy with this movement. Personally, I am of the opinion that we have too many pharmaceutical organizations at present, better results can be obtained by everyone working in unison and coöperating with the mother organization, the American Pharmaceutical Association. I cannot impress too strongly the necessity for concentrating our efforts, determining exactly what is desired and coöperating to the fullest extent. In the past the endeavors of the drug trade have been largely wasted through the lack of coöperation, which I again fear through the multiplicity of associations.

Dr. W. J. Mayo, brother of Dr. Chas. H. Mayo, special aid to Surgeon-General Gorgas, after arriving in Washington, was communicated with by your chairman, requesting his assistance in presenting the question of establishing a pharmaceutical corps to the Surgeon-General and also requesting that he obtain for us, other endeavors on my part having failed, an interview so that we could present our case and give facts which we believed would change his views as presented to the Secretary of War, in regard to pharmacists in the army service. Dr. Mayo showed us every consideration and arranged an interview. There were present Messrs. Beringer, England,

Eberle and Hilton. The interview with the Surgeon-General was short and showed considerable antagonism to the establishing of a pharmaceutical corps. He, however, referred us to a Board he had already selected consisting of Col. Bushnell and Majors Wolf, Russell and McGuire. Col. Fisher was to be a member but was away on other duties. We had a full hearing, although antagonism was again shown, the Board expressing themselves freely that what we were contending for was being done and carried out fully and was above our criticism. To this we replied that we were not criticizing the work they were doing, but the manner and means they were using to accomplish it; that we were there to coöperate with them and were offering educated and trained pharmacists to perform such work, men who had specialized in pharmaceutical work and its allied sciences; and that it could not be expected that such men would enter the service as privates; that by taking advantage of the educated pharmacist they would be relieving the members of the Medical Corps of many duties, giving them more time and better opportunities to practice their profession, and that they would have less trouble in obtaining physicians for the Medical Corps because they would not require as many if they had the pharmacists to perform the duties which clearly came within the province of pharmacy. This argument seemed to change the feeling of the Board, they gave the points we dwelt upon more attention, and we were requested to file a brief setting forth the facts fully for their consideration and report to the Surgeon-General. The brief was prepared by Messrs. George M. Beringer and J. W. England, and has been forwarded to the Department. I am unable at this time to advise what action has been taken, sufficient time has not elapsed owing to the rushed and overworked condition of the Surgeon-General's office.

The bill previously referred to as H. R. 5531 is now in the Committee on Military Affairs, House of Representatives, and I am informed will not be taken up at the special session of Congress, as it is not part of the war programme. The House of Representatives is marking time, recessing from day to day with sessions of a few minutes only, and unless very strong influence can be brought to bear, the Committee on Military Affairs will defer consideration until after the beginning of the regular session early in December.

The American Pharmaceutical Association has called upon every member and pharmacist, through its Journal, to write to their Congressman and Senators urging representation on the Advisory Commission of the Council of National Defense. This must be followed up to show that you are in earnest; write again and again, and further, ask their support for the bill providing for a pharmaceutical corps.

If we can secure the approval of the Surgeon-General on the question of establishing a pharmaceutical corps and a favorable report from Secretary Baker, it will prove a big help, and will then be an easy matter to obtain a favorable report from the Committee on Military Affairs. This will mean the passage of the bill by Congress. If you have any influence with the War Department or the Surgeon-General, get busy and "do your bit" and help secure the proper representation for pharmacy in the Government Service.

In closing this report I want to offer the following recommendations:

That we endorse H. R. 5531 with such changes that may be necessary in committee.

That we use our influence for a favorable consideration and report by Surgeon-General Gorgas and Secretary Baker.

That the thanks of this Association be extended to Dr. Chas. H. Mayo, and the American Medical Association, for the active interest they have shown and the valuable assistance rendered pharmacists and the American Pharmaceutical Association.

That a vote of thanks be also tendered Dr. W. J. Mayo, for discussing with the Surgeon-General the question of establishing a pharmaceutical corps, and also for obtaining for us an interview and an opportunity to present our case.

That we call upon each state pharmaceutical association and every drug trade organization to take concerted action with their Congressmen and Senators in support of the bill providing for a pharmaceutical corps.

And lastly, that we recommend to the incoming President of this Association, the immediate appointment of Mr. George M. Beringer as chairman of our Committee on National Defense, that the Committee be reduced to five, and that we invite the National Association of Retail Druggists to appoint a similar committee to coöperate with our committee.

Respectfully submitted,

S. L. HILTON, *Chairman.*

COUNCIL BUSINESS

PROCEEDINGS OF THE COUNCIL, FIFTH SESSION, 1916-1917.

The fifth session of the Council of the American Pharmaceutical Association for 1916-17 was held at the Hotel Claypool, Indianapolis, on Wednesday evening, August 29, 1917, at 7.00 P.M., Chairman Hopp presiding.

Present: Messrs. Army, Beal, Claus, Day, Eberle, Eldred, Engelhardt, Fennel, Fuller, Hopp, Hostmann, Koch, Sayre, Snow, Stewart, Utech, Whelpley, White and Wulling.

The minutes of the Council meeting, August 28, were read at the First General Session of the American Pharmaceutical Association held in Claypool Hotel, August 28, at 8.30 P.M. and approved by the Association.

Applications for membership Nos. 258 to 313 were read and these applicants elected as follows:

- No. 258. Mrs. Daisy B. Webber, 2450 Wylie Ave., Pittsburgh, Pa., rec. by A. F. Judd and J. A. Koch.
- No. 259. Andrew Zacovic, 46 Collins Ave., Uniontown, Pa., rec. by Louis Saalbach and J. A. Koch.
- No. 260. Leon Rovno, 1616 N. 18th St., Philadelphia, Pa., rec. by Louis Saalbach and J. A. Koch.
- No. 261. Miss Mabel F. Arney, Center Hall, Pa., rec. by L. K. Darbaker and J. A. Koch.
- No. 262. H. Francis Easley, 4701 5th Avenue, Pittsburgh, Pa., rec. by J. A. Koch and A. F. Judd.
- No. 263. Leslie Eldridge Prichard, 6437 Alabama Ave., St. Louis, Mo., rec. by H. M. Whelpley and Frantz F. Berg.
- No. 264. J. Allen Tailby, 368 Congress St., Boston, Mass., rec. by John G. Godding and J. W. England.
- No. 265. Dexter E. Seagle, Pulaski, Va., rec. by Wortley F. Rudd and A. Bolenbaugh.
- No. 266. Allen J. Hueschling, U. S. S. Dixie, care Postmaster, New York, N. Y., rec. by Wm. B. Day and J. F. Rupert.
- No. 267. Andrew John Keller, 739 Seneca St., Buffalo, N. Y., rec. by A. M. Roehrig and C. F. Booth.
- No. 268. Erwin L. Fish, Buffalo State Hospital, Buffalo, N. Y., rec. by A. M. Roehrig and C. F. Booth.
- No. 269. John Francis Kobylanski, 2242 Professor St., Cleveland, Ohio., rec. by Eugene R. Selzer and Wm. B. Day.
- No. 270. Samuel T. Eldred, Ligonier, Ind., rec. by F. W. Meissner, Jr., and Frank R. Eldred.
- No. 271. William Allen Scheddell, 104 S. Main St., Crown Point, Ind., rec. by F. W. Meissner, Jr., and C. B. Jordan.
- No. 272. Oscar B. Sjurseth, Lakota, No. Dak., rec. by W. P. Porterfield and H. L. Haussamen.
- No. 273. Donald Boston MacDonald, Munich, N. D., rec. by W. P. Porterfield and H. L. Haussamen.
- No. 274. Peter Mergens, Fairmount, No. Dak., rec. by W. P. Porterfield and H. L. Haussamen.
- No. 275. George Ross Fowler, Hankinson, N. Dak., rec. by W. P. Porterfield and H. L. Haussamen.
- No. 276. Elmer Engebretson, Devil's Lake, N. Dak., rec. by W. P. Porterfield and H. L. Haussamen.
- No. 277. H. R. Strehlow, Casselton, N. Dak., rec. by W. P. Porterfield and H. L. Haussamen.
- No. 278. Homer L. Hill, Sutton, N. Dak., rec. by W. P. Porterfield and H. L. Haussamen.
- No. 279. Ambrose Allen Bradley, Williston, No. Dak., rec. by W. P. Porterfield and H. L. Haussamen.
- No. 280. G. W. Lloyd Plette, 1413 9th Ave., Altoona, Pa., rec. by G. D. Timmons and E. H. Wisner.
- No. 281. Charles Casimir Bitowski, 98 Millbury St., Worcester, Mass., rec. by E. H. Wisner and G. D. Timmons.

- No. 282. Miss Julia Esther Emanuel, 201 W. Berry St., Ft. Wayne, Ind., rec. by Anna G. Bagley and Elizabeth Jenkins.
- No. 283. Miss Leafy A. Sauer, South Side Hospital, Pittsburgh, Pa., rec. by Anna G. Bagley and Elizabeth Jenkins.
- No. 284. Miss Alma F. Herbkersman, 6203 Broadway, Cleveland, Ohio, rec. by Anna G. Bagley and Elizabeth Jenkins.
- No. 285. Eugene Ware Wright, 1625 Carr Ave., Memphis, Tenn., rec. by Robt. L. Crowe and Frank W. Ward.
- No. 286. Henry Jos. Goeckel, N. Lehigh Ave. & Mansion Terrace, Cranford, N. J., rec. by H. V. Army and Hugo H. Schaefer.
- No. 287. Joseph Whipple Eugene Harrison, 21 N. 53rd St., Phila., Pa., rec. by Charles H. LaWall and Joseph P. Remington.
- No. 288. James Arthur Pool, 107 So. Humboldt Ave., Redfield, So. Dak., rec. by E. C. Bent and Wm. B. Day.
- No. 289. Joel F. Martin, Bourbon, Ind., rec. by F. W. Meissner and Wm. B. Day.
- No. 290. George Benjamin Rogers, 402 Michigan Ave., Buffalo, N. Y., rec. by A. M. Roehrig and George Reimann.
- No. 291. Harry E. Barnard, care State Laboratory of Hygiene, Indianapolis, Ind., rec. by Frank R. Eldred and Francis E. Bibbins.
- No. 292. John Edward Jackson, Tazewell, Va., rec. by W. F. Rudd and E. G. Eberle.
- No. 293. Chester Charles Hargreaves, 1242 Vigo Street, Indianapolis, Ind., rec. by Charles R. Eckler and Francis E. Bibbins.
- No. 294. Searcy Bennett Howard, Oklahoma City, Okla., rec. by H. M. Whelpley and Francis E. Bibbins.
- No. 295. Carl F. G. Meyer, Meyer Bros. Drug Co., St. Louis, Mo., rec. by H. M. Whelpley and Francis E. Bibbins.
- No. 296. Mathias Noll, 627 Commercial St., Atchison, Kans., rec. by Paul L. Hess and J. W. England.
- No. 297. Miss Pauline Strauel Lucas, 663 Main St., Buffalo, N. Y., rec. by Willis G. Gregory and Wm. B. Day.
- No. 298. Raymond G. Helwig, 220 Falls Blvd., Martinville, N. Y., rec. by Willis G. Gregory and Wm. B. Day.
- No. 299. Clifford Arthur Noble, 84 Broad St., Lyons, N. Y., rec. by Charles B. Sears and S. Walley Bower.
- No. 300. Clarence Arthur Elden, 133 W. Delavan Ave., Buffalo, N. Y., rec. by Willis G. Gregory and Wm. B. Day.
- No. 301. Walter H. White, 39 So. Palifox St., Pensacola, Fla., rec. by A. H. Vordick and Wm. B. Day.
- No. 302. Redmond Mayo, 1033 22nd Street, N. W., Washington, D. C., rec. by S. L. Hilton and Wm. B. Day.
- No. 303. Samuel Solomon Kaplan, 1646 W. 47th St., Chicago, Ill., rec. by Wm. B. Day and C. M. Snow.
- No. 304. Frank Schachleiter, Box 97, Little Rock, Ark., rec. by H. M. Whelpley and Wm. B. Day.
- No. 305. Edgar E. Ewing, Gilbert, La., rec. by Philip Asher and Wm. B. Day.
- No. 306. Julius Jacob Rosenberg, 1965 N. 31st St., Phila., Pa., rec. by Charles H. LaWall and Louis Gershenfeld.
- No. 307. Robert E. Walpole, Springfield, S. D., rec. by Edward C. Bent and L. T. Dunning.
- No. 308. William S. Park, Lisbon, No. Dak., rec. by W. P. Porterfield and H. L. Haussamen.
- No. 309. John William Faulkner, 5207 S. Warner St., Tacoma, Wash., rec. by Wm. B. Day and J. W. England.
- No. 310. Urvan Ruiz Sternfels, 4022 Palm St., St. Louis, Mo., rec. by E. G. Eberle and H. M. Whelpley.
- No. 311. Charles William Anderson, 601 N. West St., Indianapolis, Ind., rec. by Charles H. Stocking and F. E. Bibbins.
- No. 312. Herbert H. Hoffman, Sandusky, Mich., rec. by Charles S. Koon and Wm. B. Day.

No. 313. Howard S. Browne, 538 Chautauqua Ave., Norman, Okla., rec. by Charles H. Stocking and Wm. B. Day.

The report of Otto Raubenheimer, Chairman of the A. Ph. A. Recipe Book, was read and approved. It was as follows:

ANNUAL REPORT OF COMMITTEE ON A. Ph. A. RECIPE BOOK.

AUGUST 20, 1917.

To the Council and the Members of the A. Ph. A., Indianapolis Convention.

GENTLEMEN:

"The proof of the pudding is the eating," and the proof of the work of your Committee consists in the publication of four pages of Formulas in each number of the Journal. Including the August number, 614 Formulas have thus far been published, and the ones for the September and October Journals are already in type.

The Committee has organized itself into the following twelve divisions: Galenicals, including Hospital Formulas, Toilet Preparations, Perfumes, Family Remedies; Domestic Formulas, including Flavoring Extracts, Veterinary Medicines, Agricultural Formulas, Industrial Formulas, Photographic Formulas, Reagents and Stains; Beverages, including Soda Water; Miscellaneous Formulas. This will also serve as an outline of the scope of the Recipe Book. The members have done excellent work, for which the Chairman herewith expresses his thanks. Several colleges of pharmacy have also offered their assistance in trying out some of the formulas, especially in their post-graduate work.

The Chairman, aided by his son, prepared a Collective Index with cross references of all the Formulas since 1912, which was published in the December number of the Journal and occupied eight double column pages. This index has received favorable comment and will be a great help in our work.

We cannot close this report without expressing our deep sorrow for the death of one of our most active members—Martin I. Wilbert. There was but one Wilbert, and he will be hard to replace.

RECOMMENDATIONS.

1. A separate index of the Pharmaceutical Formulas in the Journal during 1917, to be published in the December number.
2. An appropriation of \$50.00 should be made for Reprints of Formulas, Postage, etc.

Respectfully submitted,

OTTO RAUBENHEIMER, *Chairman.*

The recommendation of the Chairman to provide an Index of the Formulas published in the Journal during 1917 in the December 1917 issue of the JOURNAL was approved, and also the request for an appropriation of \$50.00 for expenses of the Committee for Reprints of Formulas, Postage, etc.

The Treasurer called attention to his report printed in the Journal for August (1917), and made a number of statements relative to the collection of dues.

H. C. Fuller presented the report of the Washington Branch relative to a Pharmaceutical Historical Exhibit at the Smithsonian Institute at Washington.

S. L. Hilton spoke on the subject, asking that some action be taken in the matter. He stated that the necessary space was available and that the collection would receive proper attention. He stated that if it was so desired that the Exhibit be a loan, this would be satisfactory to the Smithsonian authorities.

H. C. Fuller moved that a committee be appointed to look after the matter, which motion was seconded by F. E. Stewart.

Dr. F. J. Wulling, in speaking on the subject, urged that the Exhibit be a loan exhibit. He suggested that the committee to be appointed should at once get active in the matter.

Dr. H. M. Whelpley asked whether the committee should have power to act.

Final action was deferred to the next session of the Council.

Dr. J. H. Beal reported for the Commission on Proprietary Medicine and moved that the report be referred to the House of Delegates.

Adjourned.

E. G. ERERLE, *Acting Secretary.*

PROCEEDINGS OF THE LOCAL BRANCHES

CHICAGO.

The regular monthly meeting of the Chicago Branch, American Pharmaceutical Association, was held October 26, 1917, at Kuntz-Remmlers.

There were present twenty-six members as well as a goodly number of visitors. The meeting was preceded by a very enjoyable dinner.

Professor C. M. Snow reported as Council member, mentioning especially the establishment of the Research Fund and the continuance of the Year Book.

Secretary E. N. Gathercoal presented the responsibility now laid on the Branch in perfecting arrangements for the coming annual meeting in Chicago. He proposed that our aim be 500 visitors at the convention, a doubling of the local membership and monthly meetings more interesting and attractive to the retail druggist.

C. C. Orr reported for the membership committee twenty-two new members in the last year and a net increase of eleven in the Branch. He proposed an enlarged committee and great activity during the coming winter.

Jas. H. Wells reported for the legislative committee, the passage of the pre-requisite law in Illinois and a large mass of national legislation affecting pharmacy. He suggested the postponement of discussion until a future meeting.

Dr. Bernard Fantus announced the meeting of the American Medical Association in Chicago next June, and stated that the Chicago druggists should have an exhibit at this meeting. His suggestion was heartily received but action deferred until the next meeting.

General Secretary W. B. Day made an announcement to the pharmaceutical interests of Chicago of the annual meeting of the Association to be held in this city next August and an invitation was extended to the other pharmaceutical associations in Chicago to take part in the entertainment of our guests at this meeting. A very hearty response to this invitation was shown at this meeting.

I. M. Light, Secretary, and J. H. Riemen-schneider, Chairman of the executive committee of the Chicago Retail Druggists' Association, both stated that the C. R. D. A. stood ready to assist as far as possible. Mr. Light referred frequently to the N. A. R. D. convention at Chicago in 1907, and mentioned several entertainments that had proved very successful at that time.

Charles E. Matthews, of the National Wholesale Druggists' Association, who has recently very successfully managed the ex-

tensive and fine entertainment for the N. W. D. A. convention at Chicago, helped very materially in formulating plans for our meeting next summer.

Richard Voge, president of the Chicago Drug Club, pledged the support of his organization, famous for its entertainment, in behalf of the coming meeting.

E. von Hermann, of the Chicago Veteran Druggists' Association, recalled very vividly memories of the A. Ph. A. meeting in Chicago in 1893. He said that more than twelve hundred visitors were in attendance at that meeting and that the fund for entertainment received support from every druggist and drug interest in the city. The C. V. D. A. already is planning something good for the A. Ph. A. visitors.

Mrs. Estellene Forbrich, president of the Woman's Organization of the C. R. D. A., presented the best wishes of the ladies and assured us of their hearty support.

H. C. Christensen, secretary of the National Association of Boards of Pharmacy, discussed the time of meeting and stated that the arrangement by which the Boards of Pharmacy and the Pharmaceutical Faculties met at the beginning of the A. Ph. A. week was very satisfactory and suggested a renewal of that arrangement. He also suggested the third week in August instead of the fourth week for the meeting.

S. C. Henry, secretary of the National Association of Retail Druggists, received an enthusiastic reception and expressed his pleasure at meeting with the Chicago Branch for the first time. He moved that the executive committee of the Branch be given power to act on date, local secretary, and place of meeting, subject to approval of the Council. This motion was seconded and carried.

A spirit of restraint upon lavish entertainment was expressed in view of the burden and sorrow of war that now rested upon us and might be continued until the time of the meeting in August.

Ben Eicher and F. O. Snyder made pleas that the monthly meetings of the Branch might be made more interesting and attractive to the retail druggists. Mr. Eicher moved that a committee of three be appointed by the chair to coöperate with a similar committee of the C. R. D. A. to arrange for meetings of the Branch this winter that shall especially interest the retail druggists. The motion was carried.

E. N. GATHERCOAL, *Secretary.*

DETROIT.

At the October meeting of the Detroit Branch of the American Pharmaceutical Association, Prof. Henry Kraemer, of the College of Pharmacy of the University of Michigan, gave a very interesting talk on "Obligations and Opportunities of Retail Druggists." With the aid of lantern slides, Prof. Kraemer showed methods for microscopically identifying a number of the more common drugs, pointing out the opportunity of the druggist to obtain full value when purchasing crude drugs, and his obligation to the public to supply a pure product.

Dean A. B. Stevens, of the College of Pharmacy of the University of Michigan, announced that original research work will now be a part of the curriculum of the senior student, and any druggist who has a problem of this sort, the more difficult the better, is asked to send it to him.

A motion was carried unanimously to extend a vote of appreciation to Dr. Stevens for his faithful work in, and loyalty to the American Pharmaceutical Association.

MAY STRAWN, *Secretary*.

NEW YORK.

The October meeting of the New York Branch of the American Pharmaceutical Association was called to order by President Mayer in the Library of the New York College of Pharmacy on Monday, October 8, 1917, at 8.35 P.M.

Twenty-five members were present.

The minutes of the special meeting of May 28, 1917, were read and approved.

The minutes of the meeting of the Executive Board were read.

The Treasurer reported that he had no books or statements regarding the condition of the treasury.

Dr. Hostmann reported for the special committee appointed to take care of the deceased Treasurer's accounts, that a check for \$137.39, which represents the sum due our Branch, would soon be available.

It was moved by Dr. Diner and regularly seconded and carried that the new Treasurer be authorized to obtain the books and paraphernalia.

Membership Committee.—In the absence of the Chairman, the Secretary announced the following applications: Ernest O. Bianco, New York, N. Y.; Otto A. Cains, Ozone Park, N. Y.

For membership in the Local Branch only: Paul M. Werner, New York, N. Y.

It was moved, seconded and carried that these applications follow the usual course.

Committee on Legislation and Education: The chairman of this committee being absent, no report was rendered.

Committee on Fraternal Relations: Dr. Diner reported that a joint committee was being organized to consider the matter of medical registration of pharmacies.

Progress of Pharmacy: Dr. Dickman read a lengthy and interesting report, touching, among others, upon the following topics:

Determination of Legulose in Dextrose
Test for Vanilline
Waterglass Paint
Citrus Experimental Station
Lead in Oil of Cassia

New Business: The recommendation of the Executive Committee regarding the time of meeting was brought up. After considerable discussion, it was decided to hold this matter over for the next meeting.

It was moved by Dr. Hostmann and seconded by Professor Dickman that a committee of three be appointed by the President to further the Edmonds Bill. This motion was carried after a short discussion.

The President appointed Dr. Hostmann, Dr. Anderson and Mr. Holzhauer to serve on this committee.

Dr. Diner, delegate of the A. Ph. A. convention, brought in his report.

Dr. Dickman reported in connection with the New York State convention.

Dr. Schaefer reported on the New Jersey Pharmaceutical Association convention.

Dr. Wimmer and Mr. Latham reported on the Connecticut Pharmaceutical Association convention, and Dr. Anderson on the N. A. R. D.

All of these reports were accepted with the thanks of the Branch.

HUGO H. SCHAEFER, *Secretary*.

PHILADELPHIA.

A joint meeting of the Philadelphia Branch of the A. Ph. A. and the National Pharmaceutical Service Association, marking the opening of the 1917-18 sessions of the Branch, was held at the Philadelphia College of Pharmacy, Monday evening, October 8th, with the President, Ambrose Hunsberger, in the chair. The first part of the meeting was devoted to routine business, reading of the minutes, com-

mittee reports, etc. This business dispensed with, the first speaker on the program, E. G. Eberle, was called upon to present a report of the meeting of the American Pharmaceutical Association held at Indianapolis. Mr. Eberle with his characteristic thoroughness covered every phase of the convention's proceedings. He called particular attention to President Wulling's masterly address and congratulated the National Association of Retail Druggists on its concurrence with Dr. Wulling's suggestion for the federation of the associations into one governing body representing the entire body pharmaceutical. Mr. H. B. Mason's timely paper on "Compulsory Health Insurance" was also discussed by the speaker and the suggestion was made that the Branch devote part of another evening's program to a consideration of this impending proposition.

Secretary R. P. Fischelis, of the Pennsylvania Pharmaceutical Association, then reported their annual meeting, held at Pittsburgh, and mentioned among several other interesting remarks that a new feature of the association's program is to be the publication of a quarterly journal. He added that Philadelphia, as usual, did its share in submitting papers and contributed in making the meeting one of the most successful in the history of the Association.

Dr. A. W. Miller, the next speaker, told of the successful meeting of the National Wholesale Druggists' Association, and stated that all the sessions were devoted to the presentation of committee reports. He particularly referred to the attitude of the Association to the metric system. Pharmaceutical firms find it a hardship to have to do business with the Government and foreign trade in terms of metric units while here at home they are obliged to use the cumbersome avoirdupois and apothecaries systems. Despite the simplicity of the metric system and the complexity of the systems now in vogue, Dr. Miller thought that it will take some time before we adopt the decimal system which we have already long used in our coinage. He also suggested that it was the sentiment of the convention that the retail druggist would profit more, in the present condition of the market, by careful buying and the quick turning over of stock.

Dr. J. W. Sturmer then spoke of his visit to the Chemical Exposition in New York and rather impressed careful listeners with the fact that, after all, there was but little that

was actually new, to the man who kept in touch with the advances of modern chemical progress through the journals. He called attention to a novel process which was termed "per-evaporation" and which involved the use of pyroxylin-like sack or septum in which the weak solution of a crystalline body was placed and by a dialyzation process was concentrated without resorting to use of heat. Dr. R. P. Fischelis spoke of other apparatus of the exhibition.

The meeting of the National Association of Retail Druggists was carefully reported by S. C. Henry, recently elected secretary of that organization. Mr. Henry, with his customary tact and preciseness, interpreted the association's action relative to the postponement of their full endorsement of the Edmonds' bill. At the conclusion of the speaker's remarks, Mr. Beringer voiced his regret for the lack of coöperation of the N. A. R. D. in their unqualified support of the Edmonds' bill and stated that their inaction nullified to some extent the work of those who had fought so hard and worked so faithfully towards making the movement a success. Wm. W. McNeary coincided with the views of Mr. Henry. Further discussion of this proposition was participated in by Messrs. Apple, Eberle and others.

President Hunsberger then called attention to the fact that Mr. Henry was about to leave Philadelphia for his new home in Chicago, and that his loss to the pharmacists here would be large. The Chairman further stated that he would entertain a motion conferring honorary membership in the Local Branch upon Mr. Henry. Such motion was made and unanimously adopted.

Attention was also called that Mr. England's continued absence was due to illness and on the motion of Prof. C. H. LaWall, seconded by George M. Beringer, it was unanimously voted that the Secretary be directed to convey to Mr. England the expression of sympathy and wishes for his speedy recovery.

This brought to a termination the Local Branch's share in the evening's program. The secretary, however, would be remiss in his report without alluding to the predominating feature of the latter part of the evening's program, that is, Mr. Beringer's able paper in which he presented an outline of the formation and history of pharmaceutical service in the French army.

IVOR GRIFFITH, *Secretary.*

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, E. L. NEWCOMB, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Office of Publication, 253 Bourse Building, Philadelphia, Pa.

VICIOUS NONSENSE.

Under this caption the *New York Board of Health Journal* answers some information(?) dealing with vaccination and serum therapy that appeared in *Jim Jam Jems* for July. The statements of the latter are numbered and followed by answers of the former, indented. These are in part reprinted for the reason that the public frequently accepts such matter without further investigation.

1. Do you know that infantile paralysis often follows vaccination? (See report of investigation of 54 cases of illness and death from vaccination by James A. Loyster, in New York State during 1914; and statistics.)

Of course we do. Infantile paralysis also often follows baptism, simply because the disease affects mainly children in early life.

2. Do you know that investigations of the epidemics of 1907 and 1916 produced strong evidence that they were started from vaccine virus? (See *New York Herald* for Sept. 28, 1916.)

Inasmuch as we were in constant close contact with all scientific investigations carried on concerning the epidemic, we can state positively that no such evidence was produced.

3. Do you know that hundreds of United States soldiers on the Texas border have suffered from paratyphoid fever caused by typhoid vaccination? (See newspapers and *Army Reports*.)

The troops at the Texas border were inoculated with typhoid vaccine, and this afforded them effective protection against typhoid fever, as the records will show. At that time it was not yet customary, as it is now, to inoculate also with paratyphoid vaccine, and so paratyphoid fever (a distinct disease) did occur among the soldiers.

4. Do you know that paratyphoid was unknown until the British soldiers in India were inoculated with Wright's anti-typhoid serum, and that it occurs only in persons who have been inoculated?

Paratyphoid fever was known long be-

fore Wright began his work on typhoid inoculation. That the disease occurs only in those who have been inoculated, or is even more frequent in these individuals, is absolutely false.

5. Do you know that paratyphoid fever is human hog cholera? (*Appleton's Medical Dictionary*, Jan. 1916, defines it: *Paratyphoid*—Resembling typhoid fever or the typhoid bacillus. *P. bacillus*—An organism belonging to the hog cholera group, which causes paratyphoid fever.)

Paratyphoid fever is not human hog cholera. The paratyphoid bacillus does not cause hog cholera.

6. Do you know that cancer and tuberculosis are treated by specialists to blood debasement from vaccination? (See writings of Sir Robert Bell, for 43 years cancer specialist in London, and many others.)

No one except a quack or an ignoramus regards cancer and tuberculosis as a "blood debasement from vaccination."

7. Do you know that, contrary to the general belief, the wide use of diphtheria antitoxin has neither lowered the number of cases nor the deaths? (See report of special inquiry by the New York City Health Department. Published in the *New York World* for June 12, 1917.)

As the original source of the statistics to which this has reference, we may be permitted to say that our figures, like those of every other health department, show that the introduction of the antitoxin treatment for diphtheria reduced the death rate from diphtheria, *i. e.*, the number of deaths per 1,000 of population, enormously. No report ever issued by this Department can be twisted to show otherwise.

THE VENEREAL DISEASE PERIL.

Pharmacists are in a position to do their part in educating the public relative to the venereal disease peril that is invariably more in evidence during and after a war. The following is taken from an editorial in the *Long Island Medical Journal* and the appeal is

to doctors; the subject should receive the serious attention of every citizen:

"In the glitter and enthusiasm of military activity, in the gathering together of young men to make an army, in the concentration of recruits and training camps, one is apt to forget an intensely human side, the purely animal nature of which is the main deterrent from its public discussion. In all that we hear from the battlefield, in all that we read of wounds and death, of victory and defeat, nothing appears in the public press about the venereal disease hospitals. In all the newspaper and magazine reports which told us what a splendid sample of an army we had sent to Mexico, not one word was said of the number of cases of venereal infection which, in spite of all reasonable precautions, ran well up into the thousands upon thousands and were brought back from the Mexican border to be multiplied broadcast throughout the land. * *

* * Perhaps your son will be drafted; with your knowledge of what syphilis, usually, and gonorrhea, often, leaves in its wake, can you laugh if your son gets infected? Can you remain indifferent if some one else's son infects your daughter? These are bald, crude, unvarnished thoughts: Have you done your part to prevent the venereal peril in our own armies—are you coöperating in any way with the efforts of the Council for National Defense to prevent a great wave of venereal disease sweeping across the country, and adding its millions to the millions already diseased? Use your influence in the community, and explain to your boy and others what paresis, locomotor ataxia, pelvic abscess, ophthalmia, and a few dozen other 'trifling' consequences of youthful indiscretions mean. It is part of 'doing your bit.' "

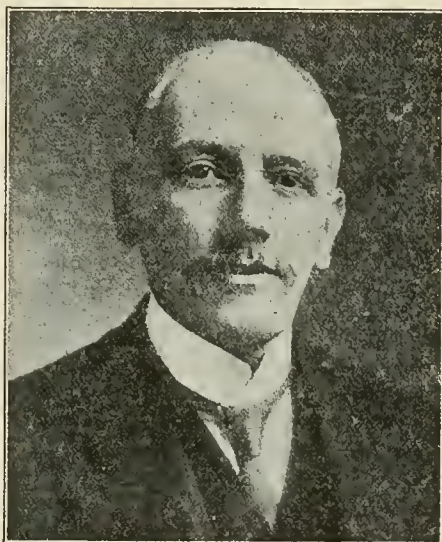
THE HANBURY MEDALIST, PROF. HENRY GEORGE GREENISH.

The Hanbury medal was founded in memory of Daniel Hanbury, and at present is the highest guerdon bestowed upon those who have done signal scientific service to pharmacy. This medal, together with a sum of money, presented in the name of Sir Thomas Hanbury, is awarded biennially. Prof. John M. Maisch, permanent secretary for many years of the American Pharmaceutical Association, was honored with this requital in 1893. The award this year has been made to Prof. Henry George Greenish, well known to American pharmacists through his contributions to pharmaceutical literature and also his compre-

hensive and authoritative work on "The Microscopical Examination of Foods and Drugs," and in collaboration with E. Collin, "Anatomical Atlas of Vegetable Powders." Professor Greenish was elected an honorary member of the American Pharmaceutical Association in 1913.

The sketch following is from the *Pharmaceutical Journal and Pharmacist*, October 6, 1917, p. 161:

"Henry George Greenish, the son of Thomas Greenish, pharmaceutical chemist, a leader in pharmacy, who was Treasurer of the Society (1878-80) (British Pharmaceutical), and twice elected President (1880-1881), was born in London in 1855, and received his general



PROF. HENRY GEORGE GREENISH

education at the Philological (now Marylebone Grammar) School, where he gained the Basil Wood Scholarship, and from which he matriculated. He was apprenticed to his father, won a Bell scholarship in 1875, and as a student in the School of Pharmacy in 1876-77 was awarded silver medals for chemistry, practical chemistry, botany, pharmacy, and materia medica, and the Society's silver medal. He became a pharmaceutical chemist in 1876, and for a session acted as demonstrator in the Chemical Laboratory of the School of Pharmacy. Afterwards he studied for two years at the University of Dorpat, and for a short time in the University of Vienna, thus laying the foundations of that unique familiarity with Continental languages and science which has proved of lifelong advantage to him, and to the

interests of pharmaceutical science. In 1890 Greenish was appointed lecturer on materia medica in the Society's School, being installed as Professor of Materia Medica in 1893, and of Materia Medica and Pharmacy in 1896, the latter designation being subsequently changed to Pharmaceutics. And for several years he has held the office of Dean of the School."

John F. Hancock, ex-President of the American Pharmaceutical Association (1873), was given a complimentary dinner by the Wedgewood Club of Baltimore at Hotel Rennert, October 25th. The speaker of the occasion was Dr. D. M. R. Culbreth, and a large assemblage was present. The affair was a delightful one; everyone entered into the spirit of good fellowship in honoring one of the most beloved of Baltimore's pharmacists.

Announcement has reached us of the marriage of Miss Dorothy Webster Lloyd, daughter of Mr. and Mrs. John Uri Lloyd, Clifton, Cincinnati, to Mr. James Arthur Brett.

Rev. William Procter Remington, son of Prof. and Mrs. Joseph P. Remington, for five years rector of St. Paul's Church, Minneapolis, has been elected suffragan bishop for South Dakota. Rev. Remington is chaplain of the Minneapolis base hospital, and in that capacity has been expecting a call to France.

The Montreal College of Pharmacy has been absorbed by McGill University and Prof. A. B. J. Moore, heretofore dean of the former institution, has been appointed head of the new department in McGill, and also



PROF. A. B. J. MOORE

professor of Materia Medica, Pharmacy and Toxicology. Prof. Moore succeeded the late Prof. J. E. Morrison (President of the A. Ph. A. in 1896) in Montreal College of Pharmacy and, like his predecessor, is a member of the American Pharmaceutical Association.

OBITUARY.

IN MEMORY OF CHARLES CASPARI, JR.

BORN MAY 31, 1850—DECEASED OCTOBER 13, 1917.

When in the October number of the Journal, a photograph of Prof. Charles Caspari, Jr., accompanied by a brief sketch of his life, was presented, we did not anticipate that before the issue had reached our Association members the final summons would come for him. Those who attended the Indianapolis meeting will remember that a telegram of good wishes was sent to Professor Caspari, who was absent on account of the condition of his health, which made long railway travel inadvisable. This did not, however, prevent him from continuing his work and the day before his demise found this untiring worker engaged in his laboratory; the next morning, however, the impaired "fountain-head," as

he had termed it, ceased to beat, and his labors were abruptly concluded. He hoped to work until the end, and he passed away at his home, as he had wished.

At the memorial meeting held in Baltimore, October 23, Professor H. P. Hynson, in his remarks, read from the Preface of the Second Edition of Caspari's "Treatise on Pharmacy," as follows:

"At the opening of the new century it seems meet that special recognition should be given to those earnest workers who, during the past fifty years, devoted their best efforts to a betterment of American Pharmacy; and it is with this object in view that the author decided to present to his readers the portraits of a few men who may justly be termed leaders, and whose examples it behooves us all to emulate. Though these noble men are no longer with us, the record of their valuable

and unselfish labors remains as a glorious heritage to the present and coming generation of pharmacists and as a forceful incentive for a continuation of that scientific spirit of investigations which has placed the profession of pharmacy in this country on a most creditable foundation."

"To these names," said the speaker, "may now be added the name of Charles Caspari, Jr."

Ex-President of the A. Ph. A., John F. Hancock, presided and E. F. Kelly acted as secretary of the meeting. There was a large attendance to do honor to the memory of the deceased. Telegrams and letters were read from the following: Messrs. J. D. Stottemeyer, Fred W. Sultan, Louis Schulze, George M. Beringer, Charles H. Ware and J. L. Lemberger; Professors Charles H. LaWall, Alfred B. Husted, Henry Kraemer; Doctors William H. Welch, J. M. Francis, J. H. Beal, H. V. Army and H. A. B. Dunning; St. Louis College of Pharmacy, School of Pharmacy University of Illinois, Massachusetts College of Pharmacy, Meyer Brothers Druggist, John T. Milliken & Company, American Pharmaceutical Association, through its Secretary, William B. Day.

We are quoting from the report in the *Baltimore Sun*, of October 24, for an account of the meeting:

"Seldom has a greater tribute been paid to the memory of a member of the faculty of the University of Maryland than that to Dean Charles Caspari, Jr., who died October 13. The amphitheatre of the chemical lecture room was filled with students, pharmacists, teachers of medicine and pharmacy and others who had known and had the highest admiration for the deceased. His career as a teacher, as a friend, as a husband and father was spoken of in the highest terms.

"Prof. J. W. Sturmer, Vice-Dean of the Philadelphia College of Pharmacy, and E. G. Eberle, Editor of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, came from Philadelphia to pay their respects. Among the speakers were Prof. Sturmer, E. G. Eberle, John B. Thomas, Dr. Timothy O. Heatwole, Dr. Randolph Winslow, Dr. A. R. L. Dohme, Dr. Henry P. Hynson, John C. Muth, Dr. D. M. R. Culbreth, and Dr. John F. Hancock.

"Dr. Culbreth said that for thirty years he had been associated intimately with Dr. Caspari and that his industry and broad knowledge and unselfishness were manifested at all times. He spoke of many instances

of the deceased's high sense of honor and honesty.

"His honesty was an inalienable birthright," said the speaker. "I once asked him what was his strongest characteristic, and he replied that it was championing the just cause and seeing its consummation. His word was his bond in all matters. He loved his work inordinately and gave more than his contract called for. He was magnanimous in his knowledge and hated untruthfulness. He shared others burdens and never shrank from any duty."

"Mr. Eberle declared that there was not a member of the American Pharmaceutical Association who did not grieve over the loss of Dr. Caspari. He added that his frankness, love of truth and dependability made anything he said valuable to the entire pharmaceutical world. He told of the great help the Baltimorean had given the Association when he was its secretary from 1894 to 1911.

"Dr. A. R. L. Dohme told of how in his father's store young Caspari had influenced those around him to be honest and accurate, and of his valuable contributions to pharmacy and his high ideals in the profession.

"Mr. Muth spoke of his generosity and model home life and his endeavor to make all his friends and relatives happy and contented.

"As one of the regents of the University, Dr. Winslow said the institution had lost one of its most valued teachers. He declared the city and state also had suffered a distinct loss in the passing away of Dr. Caspari.

"Prof. Sturmer said that pharmacy would be a long time recovering from the loss and that one of its really great men had passed away.

"Dr. Heatwole related many pleasant conversations he had had with Prof. Caspari and how, on all occasions, the noted pharmacist was ready and willing to give advice and put his knowledge at the disposal of younger men.

"Prof. Hynson, at the conclusion of his remarks, asked the audience to stand in a silent tribute to Prof. Caspari."

A temporary committee was appointed to consider plans for a Caspari memorial; this committee will be enlarged and is now composed of John F. Hancock, chairman, Dr. D. M. R. Culbreth, Dr. A. R. L. Dohme, J. C. Muth, J. B. Thomas and E. F. Kelly. An announcement will soon be made as to the form of the memorial and means by which it is to be established.

TRIBUTES.

JOS. L. LEMBERGER.

With painful sorrow I learn of the death of our time-honored friend, Prof. Charles Caspari, Jr. It is sad, and, to many of his friends, a sudden ending of a very useful career. Few persons knew that he had been in poor health for several months.

The pharmaceutical world and the American Pharmaceutical Association have lost a friend and eager devotee to all that is worth while in the profession.

My acquaintance with our late friend covers a period of at least twenty-five years and I have not a single memory of the departed one that is not pleasant. He was an earnest worker, patient and persevering, and a faithful friend.

JOHN URI LLOYD.

Professor Charles Caspari, Jr., and myself have been friends these several decades, and have been most intimately associated for many years. He was possessed of one of the kindest characters of any man I have ever met, and yet, in behalf of a cause that he felt to be righteous, was an example of firmness and steadfastness. Loyal to his friends to the utmost degree—self-sacrificing was he, in every position I have known him to be placed. In this I am not extending any information to those who knew him, but am hoping that what may be said will lead to the inspiration of others who, coming into the field of pharmacy, stand, as I saw Professor Caspari, in the enthusiasm of early manhood, and the hopefulness that led him to a crowning success in every direction where he touched pharmacy, be it practical or educational. To this I wish to add that the home life of Professor Caspari appealed to me so sincerely that I would often reflect over the opportunities I have had of visiting his family. As a citizen, he set an example to all who knew him, and as is to be comprehended, inspired his family with the highest ideals, both in domestic life and American citizenship.

To me the loss of Professor Caspari strikes doubly hard, because so few of my comrades of old are yet with us in American pharmaceutical society life, and I fully comprehend that those who still linger must, within a very reasonable time, note the narrowing of the family circle, now, alas, all too small.

Should you present your readers with letters from the friends of our departed brother, I

would consider it a favor if, either as a whole or in part, you would award me the privilege of uniting with them in this melancholy letter of earnest praise.

J. H. BEAL.

The news of Professor Caspari's death caused me profound sorrow. He was one of the ablest men in American pharmacy, though so modest and unassuming that only those who were intimately associated with him were able to appreciate his breadth of mind and strength of character.

While a conservative by nature, he was always ready and willing to give a new cause a hearing and to pronounce judgment in accordance with the argument and evidence. He was of very even temperament and possessed the somewhat rare quality of being able to maintain his own convictions without embittering those with whom he differed.

He served the American Pharmaceutical Association faithfully and diligently for many years, and contributed very largely to the success of the National Formulary. His name is one of the most worthy that appears on the Roll of Honor of the Association.

W. L. DEWOODY.

It is with deep regret that I learn of the demise of Prof. Charles Caspari, Jr. He was so actively identified with the affairs of the Association, so loyal to its objects, so diligent in the performance of every duty assigned him, so genial and cordial in his relations to his fellow members, that he will be sorely missed and long remembered and honored by those who knew him well. His good work will live long after him, a monument more to be desired than one of stone or bronze.

HENRY M. WHELPLEY.

He always looked so well, happy and ambitious that it is difficult to realize that Professor Charles Caspari, Jr., has ceased his work in this world. My acquaintance with him dates back to the Asheville, N. C., meeting in 1894. I had heard from the late Charles E. Dohme and other Baltimoreans of Professor Caspari's worth as a pharmacist and a citizen. During my first conversation, I was impressed with the fact that here was a man who would not give attention to the trivial and commonplace. His inflexible determination was also apparent and years of intimate association in A. Ph. A. duties as well as in a social way demonstrated that Professor Caspari main-

tained a determination to discharge the duties of life as they came along. He was well fitted for life's work and made a record of good service. Professor Caspari was a scholar who maintained the human touch and, as demonstrated in his Practice of Pharmacy, remembered the little things that go to make up the sum total of life. He was a gentleman under all circumstances and belonged to the type which is a credit to any calling.

GEORGE M. BERINGER.

Professor Charles Caspari, Jr., has answered the summons and his spirit "has crossed the bar." Another leader of American pharmacy has completed a useful and exemplary career; the reveille has sounded and the "Great Commander" has called him to receive the well-earned reward.

As an author, as a teacher and as a co-laborer in pharmacy and chemistry, Professor Charles Caspari, Jr., consistently strove for higher ideals in his chosen calling. His many years of service as General Secretary of the American Pharmaceutical Association and as editor of its Annual Proceedings, attested to his noteworthy qualifications for patient, unselfish and conscientious work.

His service on the Committee of Revision of the United States Pharmacopoeia was equally faithful and diligent. He was an associate whose advice I frequently sought, whose character I admired and whose friendship I cherished.

FREDERICK J. WULLING.

Professor Charles Caspari, Jr., will go down in American pharmaceutical history as one of the pharmaceutical pillars of his time. His influence will live on and carry with it all that he so valiantly stood and fought for in the battle for higher and better things for pharmacy. Not only was he a scholar and a man of intellectual attainment and capacity, but also an American gentleman of refinement and culture. Personally, I have lost one of my good friends and colleagues. Pharmacy has lost one of its best workers and advocates.

L. E. SAYRE.

The surprising announcement of the death of my almost lifelong associate brings me again to face the solemn and stern fact, that the great and unyielding Proprietor of us all

has claimed another of our most faithful and devoted workers in our honored profession.

To me this means more than extinction of life. It closes the valuable labors of one whose works will follow him—it is true—but, added to this, it is sad to think that never again shall we have that inspiring personal touch which we have experienced by his *living among and with us*.

F. E. STEWART.

The name of Professor Charles Caspari, Jr., has been added to the list of great men in pharmacy who have passed over to the other side. Those of us who were closely associated with him during his service as permanent secretary of the American Pharmaceutical Association had an opportunity of becoming acquainted with the true character of the man. He was an active worker for the Association but was so quiet and unassuming that very few, except those who were in personal touch with his work, really knew how much work he did accomplish.

As chairman of the Special Committee on National Legislation of the A. Ph. A., for several years, I had occasion to consult him frequently and I have preserved in my correspondence, for reference purposes, a number of communications which I filed at the time because of their intrinsic merit, and now value even more highly on account of their historic worth. I have just been reading them over and am impressed with their character. They well reveal the character of the man who wrote them.

JULIUS A. KOCH.

While not entirely unexpected, the news of the death of Prof. Charles Caspari, Jr., affects me deeply. American pharmacy has lost another of her big men, for Professor Caspari was the embodiment of what I consider makes up our great men. He was modest and retiring, yet forceful and aggressive when occasion demanded. I consider it one of my greatest privileges to have been numbered among his friends.

WILLIAM B. DAY.

It has always been a matter of regret to me that I had so little opportunity to know Professor Caspari personally. My activity in the Association began about the time that he retired as General Secretary.

If I were asked to give my opinion of the man, I would say that what impressed me

most deeply was his fine character. He was thoroughly a gentleman in all that the word implies. His deep and lifelong interest in the American Pharmaceutical Association and in pharmaceutical education to which he gave his best years and his greatest energies mark him as a leader in a group of educated and earnest pharmacists whose activities were associated closely with his own. His loss will be deeply felt by pharmacists generally and especially by his associates in the college and the American Pharmaceutical Association.

H. V. ARNY.

The death of Professor Charles Caspari, Jr., leaves a void that can scarcely be filled. In all of his work for pharmacy and for the American Pharmaceutical Association, Professor Caspari served with a modesty and single-mindedness of purpose that is a constant example to all of us. Personally, I mourn the loss of a good friend.

JOHN G. GODDING.

Prof. Charles Caspari, Jr., was a leader in American Pharmacy, a large contributor and loyal worker in the American Pharmaceutical Association. These contributions will remain a lasting memorial of his life-work. Another valued friend has crossed the threshold to another room before us.

CHARLES T. P. FENNEL.

I regret to learn that another one of our best friends of American pharmacy has passed away. Prof. Charles Caspari, Jr., might be called one of the old line of fighters for American pharmacy, true education in all branches of pharmaceutical endeavor and coupled with the commercial advantages that accrued to the pharmacist in the practical application of principles of pharmaceutical theory. His endeavors have borne good fruit and his memory will remain green in the annals of American pharmacy.

LOUIS SCHULZE.

As a former student of the late Dr. Charles Caspari, Jr., and an associate in various pharmaceutical bodies for the past thirty years, I feel it but due him to say through the A. PH. A. JOURNAL that he was one who ever inspired his students toward all that was best and noblest in the profession.

And though his attainments were far above the average of those in the profession, yet at

all times he was most approachable by the humblest of the profession, and ever ready and glad to advise and counsel any who asked counsel and advice of him; he, himself, at all times being the very personification of humility.

Well do we remember several occasions, when his fellow-pharmacists in various organizations would have been pleased to elect him to positions of honor, yet he always insisted on declining, but when it came to do any work for the betterment of pharmacy no one was more earnest, nor zealous in the cause. If there was a predominating feature of his life, we believe that it was *duty*, and *duty well done*, and this he ever tried to impress upon those who were students under him.

He has joined the innumerable majority that have gone before, but the example he set whilst upon earth, and the work he did, will long live in the hearts of all true lovers of the profession he so nobly adorned.

E. G. EBERLE.

In the last number of the JOURNAL a photograph of Prof. Charles Caspari, Jr., was used for frontispiece, accompanied by a brief sketch. While we were aware that conditions had developed in the health of Professor Caspari that might call him away very suddenly, this thought did not enter into our decision. Of course, it was an incident but there seemed to be an impelling desire to pay this little tribute. We were shocked to receive the word that this faithful worker for pharmacy and the Association had passed away; the news came when the October issue of the JOURNAL was completed and it was mailed to the members on the day when the family and friends of the deceased were mournfully gathered about his mortal remains.

During the years that we knew Professor Caspari he endeared himself by his singular modesty and amiability, and his great zeal and interest for pharmacy. His precepts, his teachings, have left, for the attention of those who survive him and those yet to come, gleanings of knowledge that will guide them in their pharmaceutical careers. His genial nature won those with whom and for whom he labored, and his keen, strong intellect and sound, good sense, united with energy in action and firmness in resolution, marked his efforts for pharmacy and his years of valuable service for the American Pharmaceutical Association.

SOCIETIES AND COLLEGES.

NATIONAL PHARMACEUTICAL SERVICE ASSOCIATION.

Fifty new members, representing twenty-two states, the District of Columbia and Canada, were elected into the National Pharmaceutical Service Association at the regular monthly meeting, held October 8th, at the Philadelphia College of Pharmacy.

Dr. F. E. Stewart, who had been sent to the Convention of the Pennsylvania Medical Society by the Association, to secure their co-operation in the movement for the organization of a Pharmaceutical Corps, reported that the matter would be taken up in the *Pennsylvania Medical Journal*, which is the official organ of the Society.

The report of Treasurer J. C. Peacock showed a balance of \$65.15.

A letter from Mr. C. A. Mayo, recommending a concerted effort to obtain publicity in the lay press for the organizing of a Pharmaceutical Corps, was read and referred to the Executive Committee.

President George M. Beringer read an extremely interesting paper on "The Pharmaceutical Service in the French Army." The paper is to be published and distributed to the members of the Association and to others interested.

A vote of thanks was given to Mr. Beringer for his interesting presentation of the subject.

Dr. F. E. Stewart and Messrs. E. G. Eberle and C. H. LaWall discussed the paper.

It was reported that the Edmonds Bill, which seeks to create a Pharmaceutical Corps in the Army, would not be brought to the floor of the House by the Committee on Military Affairs until the December Session of Congress. At that time, it is hoped that a hearing will be arranged so that representatives of the pharmaceutical profession can present their opinions in detail.

The Association desires particularly to keep in touch with pharmacists who have enlisted, or who have been conscripted, so that if the Bill should pass, provision can be made to have them transferred to the Pharmaceutical Corps.

Applications for membership should be sent to the Secretary, Robert P. Fischelis, 828 N. Fifth St., Philadelphia, Pa.

ROBERT P. FISCHELIS,
Secretary.

NATIONAL WHOLESALE DRUGGISTS' ASSOCIATION.

The forty-third annual meeting of the National Wholesale Druggists' Association was held in Chicago during the week beginning October 1. The attendance was large and the proceedings reflected the condition of the times. One of the most satisfactory reports was that of the Committee on Suits against Members, which conveyed to the members the pleasing information that the Parke suit, long pending against them, had been settled.

Chairman Dr. A. W. Miller presented an excellent report on the metric system, in which replies from about 100 members were incorporated expressing their views on a general adoption of this system; the majority of the



CHARLES E. BEDWELL,
President N. W. D. A.

replies were favorable. Membership was authorized in the American Metric Association.

The plan of Ex-President F. J. Wulling of the American Pharmaceutical Association, providing for a federation of all drug interests, was presented and referred to the Board of Control to be reported on at next annual meeting.

An interesting and valuable report was made by Dr. A. R. L. Dohme, chairman of the Committee on Prevention of Adulteration on the condition of the drug and chemical markets.

W. L. Crounse, representative of the N. W. D. A. at Washington, explained the War Revenue Law and the effect on the wholesale drug and manufacturing interests.

Adopting the recommendations of President James W. Morrison, the membership of the Board of Control was increased, and a Senior Council established, composed of the ex-presidents of the Association. Each president, upon expiration of his term of office, automatically becomes a member of this Council.

The report of the Legislative Committee dealt in detail with enacted legislation, both state and national, and a discussion of proposed measures that failed.

The Association has provided for prizes to be given for papers on the subject of "The Advantages of Buying through the Jobber." The contest is open to salesmen representing the membership of the Association.

New York City was selected for the next



F. E. HOLLIDAY
Secretary N. W. D. A.

place of meeting, and the following officers were elected:

President, Charles E. Bedwell, Omaha, Neb.

First Vice-President, Robert H. Bradley, Toledo, Ohio.

Second Vice-President, Saunders Norvell, New York, N. Y.

Third Vice-President, H. C. Risher, Waco, Texas.

Fourth Vice-President, W. C. Miller, Richmond, Va.

Fifth Vice-President, Clarence E. Hooper, Boston, Mass.

Secretary, F. E. Holliday, New York, N. Y.

Assistant Secretary, Evans E. A. Stone, New York, N. Y.

CHICAGO VETERAN DRUGGISTS' ASSOCIATION.

October 22, the Chicago Veteran Druggists' Association celebrated the eighty-eighth birthday of O. F. Fuller, honorary president of the Association. Thirty-three members and non-members were assembled, and kind words spoken of the living with expressive carnations added to the happy event. N. A. R. D. Secretary Samuel C. Henry was introduced officially and responded in an appreciative and hopeful manner.

The example set by Chicago should stimulate like associations in other cities; it may be that the influence of the Chicago meeting of the A. Ph. A. will bring this about, responsive to the repeated call of Fra Wilhelm Bodemann.

NEW YORK COLLEGE OF PHARMACY.

We are advised that Dean H. H. Rusby has returned from his South American trip. In a letter he communicated that he had secured many specimens and much information, both scientific and commercial, regarding medicinal plants and drugs.

BROOKLYN COLLEGE OF PHARMACY.

Brooklyn College of Pharmacy will celebrate the twenty-fifth anniversary of two of its professors, D. C. Mangan and H. W. Schimpf. In honor of the event a dinner will be given November 21, at Elks Club. The chairman of the Dinner Committee is Henry B. Smith and of the Press Committee A. Percival Lohness.

MASSACHUSETTS COLLEGE OF PHARMACY.

War activities of various kinds are strongly in evidence at the Massachusetts College of Pharmacy. Thirty graduates and twenty-four students of the College have been reported as being in some branch of war service; many more are in training and expect to be called soon. Most of those in service are in base hospitals, ambulance corps, and army and navy medical corps, with a few in the aviation service or in the infantry.

During the last two weeks representatives of the Liberty Loan Committee of New England addressed the various classes and Dean Bradley was invited to serve on a sub-committee to secure subscriptions from the drug trade. Bonds amounting to more than two thousand dollars were taken by students and their friends.

The students in attendance have subscribed

to a fund for the purchase of a service flag to be displayed by the College, with a star for each student who has entered war service.

Scholarships for the session of 1917-1918 have been awarded as follows: the Massachusetts State Pharmaceutical Association Scholarship to Argiris G. Sampanis, of Boston; the

Eastern Drug Company Scholarship to R. Tracy Burrows, of Noank, Conn.; the Brewer and Company Scholarship to Francis J. Connors, of Westerly, Rhode Island; the Baird Memorial Scholarship to Leo D. Steinberg, of Boston; the Greenleaf Memorial Scholarship to George C. Schicks, Jr., of Lowell.

THE PHARMACIST AND THE LAW.

THE WAR TAXES.

ALCOHOL.

Section 303 of the war revenue law reads: "That upon all distilled spirits produced in or imported into the United States upon which the tax now imposed by law has been paid, and which, on the day this act is passed, are held by a retailer in a quantity in excess of 50 gallons in the aggregate, or by any other person, corporation, partnership or association in any quantity, *and which are intended for sale*, there shall be levied, assessed, collected and paid a tax of \$1.10 (or if intended for sale for beverage purposes or for use in the manufacture or production of any article used or intended for use as a beverage, a tax of \$2.10) on each proof gallon."

A ruling by the Commissioner of Internal Revenue of October 23, T. D. 2547, reads:

"Floor tax-sections 600, 601 and 602—(1) Alcohol held on October 3, 1917, by manufacturers of proprietary medicines for use in manufacture as an ingredient in the manufacture of medicines is subject to the floor tax, unless on the day the act took effect it was *in process of manufacture* and had been rendered unfit for beverage purposes."

From this it would appear that all alcohol in the hands of manufacturers on October 3, if in its original condition, is subject to the excess tax on distilled spirits.

SODA FOUNTAIN SUPPLIES.

Section 313, subdivision *a*, reads in part: "Upon all prepared syrups or extracts (intended for use in the manufacture or production of beverages, commonly known as soft drinks, by soda fountains, bottling establishments, and other similar places) sold by the manufacturer, producer, or importer thereof, if so sold for not more than \$1.30 per gallon, a tax of 5 cents per gallon; if so sold for more than \$1.30 and not more than \$2 per gallon, a tax of 8 cents per gallon; if so sold for more than \$2 and not more than \$3 per gallon, a tax of 10 cents per gallon; if so sold for more

than \$3 and not more than \$4 per gallon, a tax of 15 cents per gallon, and if so sold for more than \$4 per gallon a tax of 20 cents per gallon."

A tax of five cents per pound is levied on "carbonic acid gas" in drums or other containers.

TOBACCO, ETC.

Section 403 reads in part: "That there shall also be levied and collected upon all manufactured tobacco and snuff in excess of one hundred pounds at any one place of business, and upon cigars in excess of five hundred at any one place of business and upon cigarettes in excess of one thousand at any one place of business, which were manufactured or imported and removed from factory or customs house prior to the enactment of this act, bearing tax-paid stamps affixed to such articles for the payment of the taxes thereon, and which are, on the day after this act is enacted, held and intended for sale by any person, corporation, partnership, or association, an additional tax equal to one-half the tax imposed by such sections upon such articles and upon all manufactured tobacco, snuff, cigars, or cigarettes, removed from factory or customs house after the passage of this act, but prior to the time when the tax imposed by Section 400 or Section 401, upon such articles takes effect, an additional tax equal to one-half the tax imposed by such sections upon such articles."

PERFUMES AND PROPRIETARIES.

Subdivisions *b* and *c* of Section 601 read in part as follows: "Upon all perfumes, essences, extracts, toilet waters, cosmetics, petroleum jellies, hair oils, pomades, hair dressings, hair restoratives, hair dyes, tooth and mouth washes, dentrifices, tooth pastes, aromatic cachous, toilet soaps and powders, or any similar substance, article, or preparation by whatsoever name known or distinguished, upon all of the above which are used or applied or intended to be used or applied for toilet purposes, and which are sold by the manufacturer, importer, or producer, a tax equivalent

to two per centum of the price for which so sold; and

"Upon all pills, tablets, powders, tinctures, troches or lozenges, syrups, medicinal cordials or bitters, anodynes, tonics, plasters, liniments, salves, ointments, pastes, drops, waters (except those taxed under section three hundred and fourteen of this act), essences, spirits, oils, and all medicinal preparations, compounds, or compositions whatsoever, the manufacturer or producer of which claims to have any private formula, secret, or occult art for making or preparing the same, or has or claims to have any exclusive right or title to the making or preparing the same, or which are prepared, uttered, vended, or exposed for sale under any letters patent, or trade mark, or which, if prepared by any formula, published or unpublished, are held out or recommended to the public by the makers, venders, or proprietors thereof as proprietary medicines or medicinal articles or preparations, or as remedies or specifics for any disease, diseases, or affection whatever affecting the human or animal body, and which are sold by the manufacturer, producer, or importer, a tax equivalent to two per centum of the price for which so sold."

Upon all cameras sold by the manufacturer, producer or importer a tax is placed equivalent to two per centum of the price at which they are sold.

TRADE MARKS, ETC.

Owners of patents, good will, trade marks, trade brands and other intangible property are confused over the provisions of the war revenue law. How these are going to be valued in ascertaining the "invested capital" of the individual, partnership or corporation possessing them is a problem which is con-

fusing their owners and one on which Washington as yet has made no ruling.

The wording of the provisions, which are included in the definition of "invested capital" given in the law, is as follows:

"The good-will, trade marks, trade brands, the franchise of a corporation or partnership or other intangible property shall be included as invested capital if the corporation or partnership made payment bona fide therefore specifically as such in cash or tangible property, the value of such good will, trade mark, trade brand, franchise or intangible property not to exceed the actual cash value or actual cash value of the tangible property paid therefor at the time of such payment; but good will, trade marks, trade brands, franchises of a corporation or partnership or other intangible property bona fide purchased prior to March 3, 1917, for and with interest or shares in a partnership or for and with shares in the capital stock of a corporation (issued prior to March 3, 1917) in an amount not to exceed on March 3, 1917, 20 per centum of the total interests or shares in the partnership or of the total shares of the capital stock of the corporation, shall be included in invested capital at a value not to exceed the actual cash value at the time of such purchase, and in case of issue of stock therefor not to exceed the par value of such stock."

In the case of an individual the wording is as follows:

"The actual cash value of patents, copyrights, good will, trade marks, trade brands, franchises or other intangible property paid into the trade or business at the time of such payment, if payment was made therefor specifically as such in cash or tangible property, not to exceed the actual cash or actual cash value of the tangible property bona fide paid therefor at the time of such payment."

BOOK NOTICES AND REVIEWS.

Pharmacy, Theoretical and Practical, Including Arithmetic of Pharmacy, Eidsel A. Ruddiman, Phar.M., M.D., Professor of Pharmacy and Materia Medica, Department of Pharmacy, Vanderbilt University. First edition, octavo, cloth, 267 pages. Price, \$1.75. Published by John Wiley & Sons, Inc., New York, 1917.

The author of this splendid hand-book states in his preface that "the object of this book is to present in as few words as possible essential facts which every pharmacist should

know." Professor Ruddiman also states it is his belief that "every student of pharmacy should possess copies of the Pharmacopoeia and National Formulary and use them as textbooks; and that only in this way will we come to have the proper knowledge of these authorities. Having these books at hand there is no need of repeating in the text-book on pharmacy what is given in them."

The comments given on preparations throughout this book constitute exactly the information which is needed by readers or

students of the United States Pharmacopoeia and National Formulary to give a better understanding of these works. It is gratifying to add to one's pharmaceutical library one pharmaceutical text which is confined to comments of a pharmaceutical nature without going into details as regards chemistry, physics, pharmacology, etc. This is not intended as a criticism of the larger works on pharmacy which take up pharmaceutical chemistry and other branches besides pharmacy, for there is also need for such volumes for reference and study purposes. For the student who receives laboratory instruction in pharmacy as well as lectures on the art of pharmacy, this book is invaluable. It is also of great assistance to the practical druggist who desires to know the "whys and wherefores" of the directions which he follows in making pharmacopoeial and National Formulary preparations. The same high standard to which Professor Ruddiman's other publications conform is maintained in this volume and we predict for it a wide use and great popularity.

ROBERT P. FISCHER.

Handbook of Pharmacognosy. By Otto A. Wall, M.D., Ph.D., Member of the Committee for Revision of the Pharmacopoeia of the United States, 1880-1890 and 1890-1900; Second Vice-President of the Convention for the Revision of the United States Pharmacopoeia from 1900-1910; Presiding Officer of the United States Pharmacopoeia Convention of 1910; Fourth Edition, Revised and Enlarged. St. Louis, C. V. Mosby Company, 1917. 629 pages.

The book is not divided into chapters.

The introduction of 27 pages discusses studies that should be fundamental or preliminary to the study of pharmacognosy and describes the various methods of classifying drugs to study them to the best advantage.

The classification adopted by the author is the one of Schimper and of Maisch, based on the physical characters of the drugs. His classification differentiates drugs into eighty-six distinct classes or groups. The animal drugs are placed into the first eight groups; plants or flowering tops, sufficiently complete for botanical determination, constitute the ninth group; Algae, Lichens, Fungi, Lycopodiaceae, Equisetaceae and Ferns the next six groups and then follow roots, rhizomes, tubers, bulbs, twigs, woods, barks, leaves, flowers, fruits, seeds, etc., etc. The full

classification of fruits is appended as a type of the entire classification.

Group 58. Spurious fruits, fresh (rose hips, apple).

59. Fleshly fruits, fresh (lemon, orange, apple, persimmon, raspberry, juniper berries).

60. Stone fruits, fresh (raspberry).

61. Dried or prepared spurious fruits (hops, juniper berries, figs, long pepper, Am. wormseed).

62. Dry fruits (cardamom, star anise, poppy heads, St. John's bread, prickly ash berries, vanilla, cassia fistula, the Umbelliferous fruits, burdock seed, hemp seed, barley (malt).

63. Dried or prepared fleshy fruits (black pepper, capsicum, colocynth apple, raisins, poke berries, orange berries, clove fruits).

64. Dried or prepared stone fruits (cubeb, prune, saw palmetto, fish berries, buckthorn berries, allspice, sumach berries, cashew nut).

65. Parts of fruits (tamarind, white pepper, bitter and sweet orange peel, pomegranate rind, bael fruit, mangosteen, lemon peel).

A short section is devoted to the Method of Study used by the author. Each drug is to be treated according to the following outline: Name, Origin, Habitat, Description, Constituents, Uses, Dose.

Preceding the description of the vegetable drugs a section is devoted to Botany, Microscopy and Vegetable Histology.

The descriptions of the drugs are concise yet accurate and complete and the field of drugs is thoroughly covered, about 40 animal drugs and over 400 vegetable drugs being described. The illustrations while not "fancy" are accurate and instructive and especially interesting because they are original by the author. The typographical make-up of the book is very good.

The classification of drugs according to their physical characters is difficult under the best of circumstances but when a knowledge of botany is considered non-essential to the study of pharmacognosy such a classification must

become very difficult indeed. Quotations from the author's section on Botany follow: "Botany is of comparatively subordinate interest to the pharmacist. . . ." "If a student likes the study (of botany) and wishes to perfect himself in it, he should do so under no mistaken idea that it is essential to his becoming either a good pharmacist or a good pharmacognosist. . . ." "Recognizing the minor value of a botanical classification of drugs, no stress is placed on this subject be-

cause it is of little or no practical use to the pharmacognosist or pharmacist."

Another feature that seems "passing strange" is that no reference whatever was found in the book to the U. S. Pharmacopoeia or National Formulary except for a short paragraph in the preface. Personally, the reviewer has seen no text-book that is the equal of the botanical portions of these two national standards as a text for the study of pharmacognosy.

E. N. GATHERCOAL.

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of the change of address is received before shipment or mailing.

Both the old and the new address should be given thus:

HENRY MILTON,
From 2342 Albion Place, St. Louis, Mo.
To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

CHANGES OF ADDRESS SINCE SEPT. 18, 1917.

BECKER, H. G.

From Pekin, Ill.

To 2625 Ann Ave., St. Louis, Mo.

GAHN, HENRY.

From U. S. Marine Hosp., New Orleans, La.

To Pensacola Quarantine, Pensacola, Fla.

COLLINS, GEO. W.

*From 5143 Maple St., St. Louis, Mo.

To Box 66, Mt. Vernon, Ill.

COBLENTZ, V.

From 23 Vine St., Brooklyn, N. Y.

To Chemists' Club, 52 E. 41st St., New York, N. Y.

WITT, C. T. A.

From 215 W. Ohio St., Chicago, Ill.

To 2212 Sedgewick St., Chicago, Ill.

DARCY, J. B.

From St. Vincent's Hosp., New York, N. Y.

To Residence Unknown.

DAWE, WM. H.

From 425 N. Wyoming St., Butte, Mont.

To Residence Unknown.

PARMELEE, H. L.

From Walsingham Apts., Cor. 16th & Delaware, Indianapolis, Ind.

To 527 Lockerbie St., Indianapolis, Ind.

RABINOWITZ, WM. J.

From 518 W. 134th St., New York, N. Y.

To care A. Daily, Rosenberg, Texas.

CIATFIELD, H. B.

From Residence Unknown

To Reed St., Lexington, Mass.

GASEN, HARRY.

From Residence Unknown.

To Hospital Corps, U. S. A., Ft. Sheridan, Ill.

PEAT, C. A.

From Residence Unknown.

To 70 Woodlawn Ave., Norwalk, Ohio.

LAMAR, W. R.

From 327 N. 18th St., East Orange, N. J.

To 8502 Ferriss St., Woodhaven, New York, N. Y.

SMITH, WM. E.

From care Missoula Drug Co., Missoula, Mont.

To Residence Unknown.

LESLIE, F. A.

From 905 Jackson Ave., New York, N. Y.

To 79 Post Ave., New York, N. Y.

PATTERSON, JAMES N.

From 486 Geary St., San Francisco, Cal.

To 140 Lincoln St., Santa Cruz, Cal.

SCHULZ, H. L.

From 1626 Transportation Bldg., Chicago, Ill.

To 641 Washington St., U. S. Food & Drug Laboratory, New York, N. Y.

DECEASED SINCE SEPT. 18, 1917.

CASPARI, CHAS., JR.

Baltimore, Md.

FOX, P. P.

Philadelphia, Pa.

HASSINGER, S. E. R.

Philadelphia, Pa.

CHARLES HOLZHAUER

NEWARK, N. J.

1848-1917

President of the American Pharmaceutical Association, 1917

He leaves behind him a wealth of friends and a true example of kindness, sincerity,
constancy, loyalty and devotion



CHARLES HOLZHAUSER

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. VI

DECEMBER, 1917

NO. 12

CHARLES HOLZHAUER.

In the issue of January 1917, a brief sketch of the President-elect of the American Pharmaceutical Association was printed; this was a gratifying privilege; it becomes a painful duty to record in this number of the JOURNAL the passing away of the President of the Association, following a stroke of apoplexy on November 19, and which he survived only a very short time.

If our records are correct, then this is the second time in the history of the American Pharmaceutical Association that the one elected to the highest place within the gift of the Association died during the term of office. President Emlen Painter was elected at the meeting of 1889 and in January following was called hence. These two men held somewhat different views relative to pharmacy, their disposition in many respects was unlike, but both were unreservedly credited with loyalty to the Association, and unswerving in what they believed to be right—members of whom the Association is justly proud. M. W. Alexander, who preceded Prof. Emlen Painter as President of the A. Ph. A., said of the latter: "Mr. Painter is dead, but he leaves behind him a memory that will be a benefit and a force of inspiration to the members of this Association to emulate his example in sustaining and raising the standard of pharmacy in this country." Of President Holzhauser, related comments will follow, and for these expressions liberty is taken in embodying the larger part of a communication from First Vice-President A. R. L. Dohme, and whose views express those of the writer, by whom some additions are made.

There are several characteristics of Charles Holzhauser which deserve more than passing notice. These are loyalty to his chosen profession and the American Pharmaceutical Association, unselfishness in his personal relations to others and the Association, and a combination of high ideals with modern methods in the conduct of his business, resulting in the pronounced success that enabled him to develop an increasingly successful business from the most humble beginning of one hundred dollars, inherited from his father at the age of twelve years.

Charles Holzhauser was ever modest and unpretentious and he never forced himself or his views upon others or into publicity. His excellent example was persuasive. The greatest honor that can be awarded to a pharmacist of this country, the presidency of the American Pharmaceutical Association, and which he so richly deserved for the efforts of seventy years of life, of which fifty-five were spent in his chosen profession without one step in it that was discreditable

or selfish, came to him just in time to crown those years of well-spent service with the honor he most cherished. Mr. Holzhauer joined the American Pharmaceutical Association in 1873, and he and Mrs. Holzhauer were looking forward with gladness to the Chicago convention. If our information is correct, all the years of the deceased's business life was given to the one store in which he had deserved pride.

The whole life of Mr. Holzhauer was made up of loyalty to his country, state, city, profession, friends, church and family, and the representative gathering assembled at the High Street Presbyterian Church to pay their respects gave evidence of their sorrow, because of his loyalty in times of stress and trouble as well as in times of happiness and contentment. It demonstrated that the kindness that wells up from the fountain head of the heart endears lasting friendships with bonds of purity and strength.

So Charles Holzhauer will live in the hearts of his many friends, both humble and exalted, for the loyalty of his friendship and the unselfishness of his life. Professionally he will stand prominent as a rare example of the blending of high ideals with practical up-to-date ideas fully abreast of the times. Our greatest idealists in pharmacy have seldom been successful in their profession and our most successful pharmacists have not, as a rule, perhaps been idealists in their calling. The deceased plied his profession on a high plane of ideals, but cast in the mold of modern ideas and exercised by the most approved modern business methods. His career as a pharmacist can well therefore be held up as an example for the younger generation to follow.

His success made it possible to provide the comforts of life for a loving family and here was a spring of his happiness; he was summoned while enjoying the company of his grandchildren. His son is a qualified and worthy successor of his father. Mrs. Holzhauer always attended the annual meetings of the American Pharmaceutical Association with her husband, and the sympathy of the entire membership goes out to the family in the bereavement by which our organization suffers a great loss.

His ability, sense of duty and obligation to his profession and humanity marked his life with success. He was inoffensively firm in his convictions and true to every trust and, without a trace of unreasonable aggressiveness, ever ready to give the most arbitrary a respectful hearing and consideration. He accomplished by quiet reasoning, his candor, his honesty of purpose and his ever cheerful but unassuming nature. Just in all his dealings, he was charitable in his judgment of men no less than in his dealings with them. As a citizen he stood for what is best in civic life; in the family his example as husband and father made for what is best in the home circle. He leaves behind him a wealth of friends and a true example of kindness, sincerity, loyalty and devotion, and a home bowed down in deepest sorrow that we hope will be strengthened to bear their loss by the heartfelt sympathy of a multitude of friends.

E. G. E.



A. R. L. DOHME

ALFRED ROBERT LOUIS DOHME.

Dr. A. R. L. Dohme succeeded to the office of First Vice-President of the American Pharmaceutical Association at the close of the Indianapolis meeting; by the passing away of our lamented President, Charles Holzhauer, the duty of presiding over the Association comes to the subject of this brief sketch.

He, this year, passed the fiftieth mile post of life and is the son of the late Charles E. Dohme (President of the A. Ph. A., 1898-1899). His birthplace is marked by the present site of Sharp & Dohme, which in 1867 was occupied by the retail pharmacy, conducted and owned by Alpheus P. Sharp, Charles E. and Louis Dohme, all of whom have left valuable records of their pharmaceutical qualifications and accomplishments in the American Pharmaceutical Association and for the benefit of American pharmacy.

Until 1883, A. R. L. Dohme attended the Friends School of Baltimore, when he graduated, and thereupon entered Johns Hopkins University as a student of chemistry and physics in the undergraduate department. In 1886 he received the degree of A.B. and in 1889 the Ph.D. degree at the latter institution. Following these years he went abroad and studied at the University of Berlin, Strassburg, Paris, and at the Analytical Laboratories of Wiesbaden, under Fresenius, giving continuous attention to pharmaceutical assaying, though his special research work was concerned with chemistry, botany and pharmacognosy. In 1890, he returned to Baltimore and established the pharmaceutical assay laboratory of the corporation of which he is now the president. In these activities, he did not at once accept of the higher responsibilities but advanced step by step, serving in every department of the business.

In the revision of the U. S. Pharmacopoeia VIII, Dr. Dohme presided over the Committee on Proximate Assays, was secretary of the Revision Committee and is also a member of the present one, of U. S. P. IX. It is impossible at this time to summarize his work justly and therefore the readers are referred to the Proceedings of the Association. He joined the American Pharmaceutical Association in 1891, was chairman of the Scientific Section in 1894-1895; he is president of the Baltimore Drug Exchange, a member of the executive committee of the American Drug Manufacturers Association and of the National Drug Trade Conference, and an ex-president of the Maryland Pharmaceutical Association.

Dr. Dohme has been president for more than five years of the City-wide Congress, the leading organization of Baltimore that looks after improving the government, beauty and general civic affairs. He is vice-president of the Baltimore Museum of Art, chairman of the Grand Opera Committee of Baltimore, and a member of many leading literary and social clubs and societies of his home city.

Dr. and Mrs. Dohme enjoy the comforts of a large estate and a beautiful residence, "Chestnutwood," near Baltimore, the scene of a garden party during the convention of the National Wholesale Druggists' Association in Baltimore, October 1916.

Six daughters and one son grace the Dohme family circle.

E. G. E.

EDITORIAL

E. G. EBERLE, Editor

253 Bourse Bldg., PHILADELPHIA

THE HOLIDAYS.

THE happiness of this season is tempered by the events which have transpired during the year, bringing the United States into the world conflict. Patriotism and loyalty are essentials of good citizenship, but regardless of how fully these may possess every one of us, the participation in the war will certainly bring mourning to many homes, and there will be sorrow, no matter how willingly the sacrifices have been made for the cause in which our country enlisted. It therefore needs no words to express that this Christmas will be different from those of former years, but the opportunity is even greater for exhibiting the genuine spirit of this holiday. The Christmas wish then is, that our impulses will be actuated by a desire to be of service to others, and our strength equal to the greater duties that have come upon us; may all of us be able to bring joy to others and thereby share in resultant mutual happiness!

"The world would be both better and brighter if we would dwell
on the duty of happiness, as well as on the happiness of duty."

Under present conditions it seems as difficult to extend the wishes of a Happy New Year as that of a Merry Christmas, and still we realize that the darkness will pass away, as time brings night and storm to an end. We can therefore be hopeful for a brighter day and reflect with satisfaction and thankfulness on our circumstances in comparison with those existing elsewhere. In the past, when preparing a New Year's wish, it has sometimes been difficult to anticipate larger benefits for the succeeding year; such a situation does not obtain this time.—Instead of the sorrows and cares of the ebbing tide of 1917, may assurances of better and more hopeful things flow back during 1918!

E. G. E.

"Our deeds have traveled with us from afar;
And what we have been makes us what we are."

CIRCUMSPECTION.

THE year past has been one of the most successful of the American Pharmaceutical Association; true, there have been years when a larger number affiliated with the organization and when the net increase of membership was considerably larger; however, the financial status is better than ever before in the history of the Association: the members receive more for their annual dues and gain more by their membership. This is pleasing, stimulating to the spirit of progressiveness; like every other success, progress encourages further advances.

Numbers and dollars are only measures of progress when they do work; action is the important thing, and it is this thought which has prompted the opening sentence. A movement has been started for a federation of all pharmaceutical and drug interests, so that they may work together in common purposes.

Coördination was exhibited in the Sections, and this might be further developed, if the incoming chairmen of the several Sections would confer relative to the programs for the coming year, with a view of completing them later. Though their work differs, there is a close relation as was clearly shown in the Section on Commercial Interests, this year, by the excellent address of Prof. Henry Kraemer, on the "Commercial Value of Pharmacognosy," and so like comparisons might as readily be drawn from papers in the other Sections. The program of the Scientific Section evidenced a growing interest in pharmaceutical research, and the Association expressed its concurrence by the establishment of a research fund, made possible by the income from the National Formulary. All of this speaks for the value of coördination and coöperation, the zeal and devotion of disinterested workers in and for pharmacy; there is not a pharmacist or druggist who does not directly profit therefrom, but comparatively few acknowledge these obligations by participating in the work, or promote the opportunities of the Association by their affiliation. How to bring a larger number into the Association and hold them still remains a problem to be solved.

It is safe to say that few of the members are satisfied with the numerical strength of the Association—the growth has been too slow. Herein is also the secret of the difficulty to secure Governmental recognition for pharmacy: the vast number of druggists are not sufficiently interested, and as a matter of course, others cannot place a higher valuation on pharmacy than do the votaries. Analysis will prove that this very lack of interest, which keeps down the membership roll of the American Pharmaceutical Association, also retards the recognition of pharmacy. It is not contended that if the membership of the American Pharmaceutical Association was increased such recognition would be forthcoming, but the spirit which quickens the interest of pharmacists in their profession, and persuades them to coöperate is the evidence that will convince the public, the legislators of the value of their work. When a larger percentage of pharmacists endeavor to elevate the standard of pharmacy, attest their faith in it, that it affords the opportunity of service to society, then it will be a much easier matter to convince the Government that pharmacy is essential to efficient medical service in the Army and Navy. This may be accomplished without such general coöperation, but if so, it will be in spite of the handicap of the indifference of many pharmacists rather than of open antagonism. This may sound like a note of dissatisfaction, but dissatisfaction is a spur pushing to opportunity, while in contentment there is inactivity.

It is evident that the real progress of the year has been prompted by a degree of dissatisfaction: dissatisfied because there was no stronger coöperation from without, within and among associations; because more pharmaceutical research had not been done; because pharmacy was not fully utilized in the drug business;

because the Government has failed to recognize pharmacy in the military organizations; because the educational standards of pharmacy were no higher; because the modern tendency in the drug business was not fully grasped and commensurate business education provided by colleges, in preparing young men and women for present-day requirements; because the membership of the Association had not grown more rapidly. Dissatisfaction is a sign of life.

"The members who're dissatisfied
They are the ones who lead;
They loose the leash of sweet content
With which the Association's tied;
They force its work ahead
By striking word and deed;
We'll never pay the debt we owe
To those who are dissatisfied."

But to those only who are dissatisfied because they desire to improve, to be engaged in constructive work and assist in shaping the affairs of the Association for more extended usefulness; with disregard of self unless the body-pharmaceutical profits by their work, and this reaching out in its beneficial influence to those who are served.

There is then the further thought of being dissatisfied because pharmacy and pharmacists are not given recognition in matters that require pharmaceutical skill and knowledge, or in which pharmacists are directly concerned. Citing as an example that of the present alcohol situation, which is fortunately clearing up somewhat, it is very evident that some of the applying restrictions are unreasonable and that these regulations were not framed by persons informed relative to the drug business.

Pharmacists are ignored in the military organizations to an extent that not only involves waste, but renders the service inefficient—it is time for an aggressive assertion because pharmacists have a right to recognition, because the standing of their profession, which renders a distinct and necessary service to society, is concerned.

Democratic principles should obtain between professions; assumed autocratic powers by any one of them will eventually prove hurtful regardless of how important their services may be. An interdependence has been naturally created because it is impossible for an individual or an associated number, learned or engaged in one line of work, to take over or efficiently direct those of another, relative to which they are not informed.

Quoting President Frederick J. Wulling: "The nature of the service that pharmacy renders places it next in importance to only one other service, namely medical service, and if pharmacy is regarded as a medical specialty, as it should be, the necessity and therefore the importance of its service to society may be regarded as second to none."

"Pharmacy has long been on the defensive because it lacked a unified force and weapon of resistance. I am asking and counselling that it awaken more universally and become consistently aggressive."

E. G. E.

USE YOUR INFLUENCE FOR THE EDMONDS BILL.

THE need of a pharmaceutical corps in the U. S. Army has been discussed in nearly every issue of the JOURNAL for this year. This appeal for the personal efforts of the members in furthering H. R. 5531 (Edmonds Bill) is written prior to the hearing before the Committee on Military Affairs of the House.

It is safe to say that all legislation before Congress requires study and investigation on the part of legislators. In matters of national legislation the latter represent the whole people, but the sincere presentation of facts regarding any measure, from those they know personally, is helpful. They seek enlightenment so they may arrive at conclusions; their responsibilities are great, their reputation depends on acting wisely, and even by exercising every precaution they will make mistakes.

No one has a better conception of the need for a pharmaceutical corps than pharmacists; many have had practical experience in, or have trustworthy information from those in the service relative to Army pharmacy; all are aware of the skill and care necessary in their own practice, and no one will dispute that our soldiers are entitled to every possible protection, and the best of attention when wounded or sick.

Every member of the Association has had the opportunity of studying the proposed measure and organizations, like the one contemplated, in foreign armies. It is the essence of these facts that your representatives in Congress desire: they want your views, and they want them now—let them hear from you.

There is opposition to the Edmonds Bill, or the cause it espouses—some sincere and some may be actuated by selfish motives; Congressman Edmonds hopes to pass the measure because well organized military pharmaceutical service will conserve the health and life of our soldiers. At Philadelphia, last month, he expressed the opinion that if Congress can be convinced of the necessity for a pharmaceutical corps, such organization will be provided for; this is a reasonable view but indicates that pharmacists will have to produce evidence and argument.

While, as already stated, the hearing on the Bill may have been held when the December issue reaches the members, even if satisfactory, the enactment will require several months, and in the meantime the influence and coöperation of all druggists and pharmacists, individually and collectively, will be necessary. Let your communications be brief, expressive of your views, and emphasize the importance of a pharmaceutical corps in the Army. If your support is prompted by an interest in the welfare of those who have enlisted, in having this country provide the most efficient service, if you are solicitous that pharmacy be recognized as a profession, it is worth the time required to draft *your own* message to members of Congress, both in the House and Senate, and this will be worth much more than a simple endorsement, or even a repetition of excerpts from a well-prepared brief—put yourself into it.

E. G. E.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

EMETOIDINE* (KRYPTONINE).

A STUDY OF ITS PHARMACOLOGY.

BY HOWARD S. BROWNE.

INTRODUCTION.

Historical: More than thirty years ago, John Uri Lloyd, in working with ipecac on a large scale, obtained a substance having alkaloidal qualities and which he at that time, for want of a better name, called "black tar." In 1915 he again became interested in this substance, and succeeded in isolating, from 125 pounds of ipecac, two grammes of a colloidal black scaly substance. From three subsequent lots of ipecac, 125 pounds each, he obtained, respectively, 112.4 grammes, 107 grammes, and 120 grammes.

At the suggestion of Dr. H. W. Wiley, he named this non-crystallizable, colloidal alkaloid, "Kryptonine," which comes from the Greek, meaning "the hidden thing." Since all things are hidden until they are discovered, and since subsequent investigation has demonstrated the similarity of the drug to emetine, it was suggested by Dr. Bernard Fantus that the name be changed to "Emetoidine."

The following description of its physical and chemical qualities is given by Lloyd:¹ It is a colloidal substance, orange-yellow when in fine state of subdivision, garnet-red in coarser particles and black in mass, scales, or bulk, thus agreeing in a very interesting manner with Ostwald's color law of colloidal substances.

Not only the base, but also compounds with acids, are colloidal. It is not deliquescent. It has a very bitter taste and colors saliva yellow. It is soluble in water, alcohol, chloroform, glycerin, dilute acids and dilute alkalies. It is insoluble in ether and benzol. Dilute solutions in water and alcohol are yellow to red, in accordance with concentration. With alkalies, the yellow solution turns red. Acids added to excess, turn the red, back to yellow.

Fehling's test: No reaction or a very faint one. Ferric chloride does not produce any obvious change in the solutions.

Alkaloidal tests: Heavy precipitate with Mayer's reagent, which leaves the supernatant liquid colorless. Picric acid, tannin and other alkaloidal reagents also produce precipitation.

Chloroform solution: Yellow to red, in accordance with proportions, alkalies turn this solution green. The addition of alcohol turns the green to red. If the solution be more concentrated, the green and red plays of color are more pronounced. On standing, the green of the chloroformic solution gradually fades, red resulting.

Formula: Dr. Sigmund Waldbott, $C_{29}H_{40}N_2O_9$.

A comparison of the above formula with that of emetine ($C_{15}H_{22}NO_2$) shows that emetine has approximately one-half the molecular weight of emetoidine.

* Read before Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

TOXICITY.

It appears that in the study of this new drug the toxicity is perhaps of prime importance. To this end, the effect upon low forms of life as well as the higher was tried.

Because of their availability and their ease of growth, the *Paramecium caudatum* was first used. The toxicity of emetidine for these organisms is quite great, as will be seen from Table I:

TABLE I.

Dilution.	Result.
1 : 500	Motion stopped immediately
1 : 1,000	Motion stopped immediately
1 : 2,000	Motion stopped immediately
1 : 10,000	Motion stopped in 12 minutes
1 : 22,500	Motion still present at end of 24 hours
1 : 50,000	Motion still present at end of 24 hours

Comparison of the above results with those obtained by Wherry⁴ shows that emetine is perhaps somewhat more toxic for paramecia, as he found it to kill the organisms in twenty-four hours in a dilution of 1 : 100,000.

(b) *Toxicity for Rabbits:* To determine the toxicity of Emetidine for rabbits, two methods of administration were used; namely, by stomach and intravenously. The drug was introduced into the stomach by means of a stomach tube and washed down with water. For intravenous injection the marginal vein of the ear was selected. The accompanying table (II) shows the results. Since the intravenous method is the most reliable, more animals were used with this. The fatal dose appears to be approximately 4.5 mg. per kilo of body weight. I found, however, that the results vary, depending upon the rapidity of the injection. The drug, when slowly injected, is not so rapidly fatal as when quickly injected.

TABLE II.

Toxicity of Emetidine for Rabbits.

Weight.	Dose per Kg.	Method.	Results.
1905 Gm.	0.066	By stomach	Survived
900 Gm.	0.072	By stomach	Death 22 days later
1820 Gm.	0.100	By stomach	Death 10 days later
780 Gm.	0.120	By stomach	Death 10 days later
865 Gm.	0.150	By stomach	Death 3 days later
1150 Gm.	0.170	By stomach	Death 7 days later

Intravenous Method.

1400 Gm.	0.00090	Intravenous	Survived
1200 Gm.	0.00170	Intravenous	Survived
1130 Gm.	0.00177	Intravenous	Survived
825 Gm.	0.00180	Intravenous	Survived
1265 Gm.	0.00320	Intravenous	Survived
1346 Gm.	0.00370	Intravenous	Survived
1085 Gm.	0.0042	Intravenous	Death 5 days later
1161 Gm.	0.0047	Intravenous	Death in 5 minutes
1714 Gm.	0.0049	Intravenous	Death in 3 minutes
1380 Gm.	0.0050	Intravenous	Death immediate
1547 Gm.	0.0100	Intravenous	Death immediate
1600 Gm.	0.0200	Intravenous	Death immediate
1430 Gm.	0.0450	Intravenous	Death immediate

The preceding table shows that emetoidine is fatal on intravenous injection in doses of approximately 4.5 mg. per Kg. to rabbits.

TOXICITY OF EMETINE FOR RABBITS.

Since emetoidine is probably closely related to emetine, I felt that it would be interesting to compare the toxicity of the two. Kolmer and Smith² state the lethal intravenous dose of emetine for a rabbit to be 0.01 to 0.0129 Gm. per Kg. Vedder³ states that 2.5 mg. per Kg. is the minimum fatal dose. The results I obtained on intravenous injection (see Table III), though the series is small, agree approximately with those of Vedder.

Comparing results of Tables II and III, it seems that emetoidine is somewhat less toxic than emetine.

TABLE III.

Weight.	Dose per Kg.	Method.	Results.
1586 Gm.	0.00473	Intravenous	Immediate death
1335 Gm.	0.00447	Intravenous	Immediate death
1452 Gm.	0.0037	Intravenous	Immediate death
1492 Gm.	0.00268	Intravenous	Death 4 days later
1687 Gm.	0.00167	Intravenous	Survived

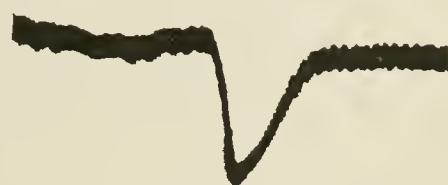
ACTION ON CIRCULATION.

Emetoidine in lethal doses arrests the heart in diastole, the animals from practically all of the cases showing this effect at necropsy. The coagulability of the blood is decreased, and appears as a black, thick fluid. The paralysis of the heart occurs, secondarily to that of respiration, the heart beating feebly for a few seconds after respiration stops.

EFFECT ON BLOOD PRESSURE IN THE DOG.

A dog weighing 15.7 kilos was prepared in the usual manner for a blood pressure tracing. After recording a normal tracing, a dose of 0.00057 gramme per kilo was injected into the femoral vein and washed in with normal saline. In about 20 seconds a drop of 25 mm. of mercury was recorded, which lasted for about 15 seconds and gradually recovered, the blood pressure going not quite so high as before the injection (see Fig. 1).

After allowing considerable time for the effect of the above dose to wear off, a dose of 0.004 gramme per kilo was similarly injected. In about 30 seconds there occurred an almost perpendicular drop in the blood pressure of 25 mm. followed by a gradual fall to within 5 mm. of the base line at which time the heart ceased to beat.



Emetoidine

*Injected .00057
Per Kilo.*



ACTION ON RESPIRATION.

Emetoidine produces a profound de-

Fig. 1—Showing the Effect on Blood Pressure, Following the Intravenous Injection of 0.00057 Gm. per Kg. of Emetoidine into the Femoral Vein.

pression of the respiratory center, paralysis occurring almost immediately, following the lethal dose of the drug. A few short, convulsive movements occur and then respiratory action stops, the animal squats down and later falls on the side, dead.

EMETIC ACTION.

The emetic action of emetoidine was studied both by intra-muscular injections and by introduction of the drug into the stomach of dogs by means of the stomach tube. While as small an amount as 0.015 Gm. per kilo, when administered by the stomach tube, produces retching and vomiting in from 30 to 45 minutes, the intramuscular administration of 0.02 Gm. per kilo produces great prostration and death, but no emesis.

LOCAL ACTION UPON THE CONJUNCTIVA.

Instillation of solutions of various strengths into the conjunctival sac of rabbits shows that emetoidine is an irritant. Strong solutions produce pain and inflammation, while weaker solutions produce only hyperemia, which lasts for a short time.

FEEDING EXPERIMENTS.

(a) *Cat.*

A healthy cat weighing 3115 Gm. was fed once daily 0.008 Gm. of emetoidine with 100 Gm. of chopped meat. In addition 150 mls of sweet milk was given. Care was taken to see that the animal had just enough to eat, so that it ate all of the food each day. At the end of twenty-five days, the animal's weight had become reduced to 2840 grammes, a total loss of 275 grammes.

(b) *Rabbit.*

A rabbit weighing 842 Gm. was fed all the chopped carrots and oats it would eat each day. Powdered emetoidine, 0.02 Gm. per day, was mixed with the carrots. At the end of thirty days the animal weighed 852 grammes. At this time the emetoidine was discontinued and the same amount of food given daily. In fifteen days the animal gained 206 grammes, weighing at the end of the feeding period 1056 grammes.

No evidence of gastric disturbance, diarrhea or other intestinal manifestation was seen in either of the above cases. The loss of weight was not due to refusal or lack of food, hence must have been caused by some digestive or metabolic derangement. Which of the two was responsible for the result, I am at present unable to say.

SUMMARY.

1. Emetoidine seems to be somewhat less toxic for both paramacia and for rabbits than emetine.
2. It produces a similar fall in blood pressure when injected intravenously.
3. It depresses the central nervous system and respiration as does emetine.
4. It produces emesis by local irritant action rather than by direct stimulation of the vomiting center, which also agrees with the action of emetine.

5. The similarity of this drug in its action upon the circulation, the central nervous system, as an emetic, and in toxicity to emetine, has influenced me to recommend to Professor Lloyd that the name of this substance be changed from Kryptonine to Emetoidine, to which Professor Lloyd has agreed.

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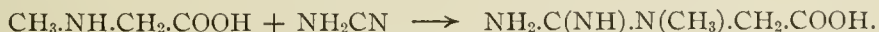
THE OCCURRENCE AND SIGNIFICANCE OF CREATININE IN URINE.*

BY W. F. GIDLEY.

Much interest has been shown of late by physiological chemists, physiologists, and others in this body, creatinine, which is excreted with normal urine of the average adult male to the extent of about 14 Gm. per day; that is, about 0.08 percent in normal urine.

This interest is no doubt due in part to the discovery of fairly accurate methods for its isolation and determination. Its isolation in pure crystalline form has been followed by the determination of its molecular and constitutional formulae and by its synthesis, so that to-day we can call it the anhydride of creatine, which, in turn, depending upon how one looks upon it, is the ureide of sarcosine or methyl-glycocoll; or, methyl-guanidine-acetic acid.

By the direct union of methyl-glycocoll and cyanamide creatine is easily synthesized:



The last product, creatine, is a colorless, crystalline substance which readily passes over to its anhydride creatinine. Aqueous solutions of creatine are neutral, but of creatinine are distinctly alkaline. Such alkaline solutions are unstable but the solution becomes stable upon acidifying.

Creatinine will reduce Fehling's solution, and will also reduce picric acid to picramic acid in alkaline solution. The picramic acid solution is distinctly reddish and upon this property of creatinine is based Folin's colorimetric method for its determination.

The process by which creatinine may be obtained in pure form is given in Hawk's "Physiological Chemistry," last edition.

It is probable that the creatinine of the urine is derived from the creatine of

* Read before Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

the tissues of the body. Creatine, as is known, occurs widely spread throughout the body (about 120 Gm. to the average adult) in the blood, brain, thyroid body, but particularly in the muscles. Where the change from creatine to creatinine occurs is not definitely known, but the liver tissue and muscle tissue are, among several others, capable of producing it; may be an enzymatic action. The source of creatine is even more problematical. Urea may be concerned in its synthesis; recall its chemical relation to that body. By some it is thought to be produced by metabolism notable within muscle tissue; that is, not represented in the products resulting from catabolism, but in the "filings" and "scraps" unused or brushed aside in repair work.

Several interesting facts are cited to show that "creatine and creatinine are products of endogenous metabolism in the body." That the amount of creatinine excreted varies directly as the weight of the body is significant. Again its excretion does not depend in amount on the quantity of protein in the food. During starvation its excretion (or creatine + creatinine?) is remarkably constant. How different is this excreted nitrogenous body in this respect from urea. The two have been compared repeatedly by Folin, who suggests that the excretion of creatinine is "an index of the real catabolism of the vital machinery of the body proper, in distinction from that catabolism which increases the free energy;" that is, it indicates the upkeep necessary, not the "gasoline" consumption. Hence the study of its determinations should be a basis for diagnosis as to general cell vitality.

Sufficient clinical data of its occurrence and amount in pathological urines are as yet not at hand. Shaffer found a low creatinine content in a large number of pathological urines representing a variety of conditions which forced him to conclude that an "abnormally small amount of this substance is by no means peculiar to any one disease." But against this is the fact that creatine and creatinine both appear in the urine at times and cannot with certainty as yet be distinguished between quantitatively. Shaffer's urines might have greatly varying amounts of creatine in them.

Upon the accurate separation and determination of these two, creatine and creatinine, many perplexing and interesting problems can be solved, such as the possible part played by creatine in muscular contraction, or whether the quantity of creatine in urine is an index to the rejuvenescence of cell protoplasm. Possibly it is creatine and not creatinine that may have the greater significance in urine. The whole problem is interesting and its solution may be of much value.

The writer does not claim to have presented any new lights bearing upon this subject, but rather to have presented a combination of certain of the discoveries and opinions of others.

If he has aroused renewed interest in this hackneyed subject of urine analysis the purpose of the paper has been fulfilled.

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THE PERMANENCE OF PEPSIN SOLUTIONS.*

BY C. F. RAMSAY.

A series of tests made by the author of this paper indicate that pepsin solutions deteriorate and the rate of deterioration is progressive; they are fairly permanent for the first six months; that acidity is a factor is shown by a greater loss in activity in preparations containing the larger percentage of acid. The investigations will be continued.—EDITOR.

Considerable work has been done regarding the effect of different acids and salts upon the activity of pepsin. The retarding effect of certain substances on pepsin digestion was discussed by the writer in a paper published by the American Pharmaceutical Association in the year 1915. The writer finds no record of work determining the permanence of pepsin solutions. Since there are a number of liquid preparations of pepsin in common use, the National Formulary having no less than eleven, varying in their acidity as well as in other respects, it was thought advisable to determine the permanence of such solutions. Several N. F. Preparations of Pepsin which had stood from six months to two years were tested. These solutions had been made in strict accordance with the formulas of the National Formulary, third edition, and were found to be standard when first made, but upon standing most of them showed marked deterioration and some were inert. About this time the fourth edition of the National Formulary came out and the writer made up the various pepsin solutions strictly in accordance with directions given in this edition. They all tested standard when first made. After six months the following results were obtained:

Elixir of Pepsin	Inert	Acidity 0.23 percent HCl
Elixir of Pepsin, Bismuth and Strychnine	No loss	Neutral
Elixir of Pepsin and Bismuth	No loss	Neutral
Glycerite of Pepsin	12 percent loss	Acidity 0.3 percent HCl
Liquor Pepsin	Inert	Acidity 0.4 percent HCl
Elixir of Pepsin and Iron	25 percent loss	Acidity 0.2 percent HCl
Liquor Pepsin Antiseptic	40 percent loss	Acidity 0.23 percent HCl
Liquor Pepsin Aromatic	Inert	Acidity 0.4 percent HCl
Wine of Pepsin	25 percent loss	Acidity 0.02 percent HCl
Elixir of Pepsin and Rennin Compound	10 percent loss	Acidity 0.08 percent HCl

At the time of making up these N. F. IV preparations, it was suggested that the deterioration in the N. F. III preparations might be due to an excess of acidity. In order to determine this point a series of pepsin solutions were prepared with varying amounts of free acid. These preparations were tested when first made and again after standing six months. The following results were obtained:

Acidity 0.02% HCl	Lost 7% activity	Acidity 0.1% Tartaric	Lost 7% activity
Acidity 0.05% HCl	Lost 15% activity	Acidity 0.2% Tartaric	Lost 7% activity
Acidity 0.1% HCl	Lost 15% activity	Acidity 0.3% Tartaric	Lost 15% activity
Acidity 0.15% HCl	Lost 20% activity	Acidity 0.4% Tartaric	Lost 15% activity
Acidity 0.2% HCl	Lost 20% activity	Acidity 0.5% Tartaric	Lost 15% activity
Acidity 0.25% HCl	Lost 40% activity	Acidity 0.7% Tartaric	Lost 25% activity
Acidity 0.3% HCl	Lost 60% activity	Acidity 1.0% Tartaric	Lost 25% activity

* Read before Scientific Section, A. Ph. A., Indianapolis meeting, 1917.

Alcohol causes no retardation to pepsin unless the solution contains more than 30 percent.

Sulphurous acid causes no retardation to pepsin unless the solution contains more than 0.7 percent.

Glycerin shows no effect even when the solution contains as much as 50 percent.

The above preparations will be tested again after standing one year. The results appear to indicate that acid causes a deterioration of pepsin in solution. This investigation will be carried further.

SCIENTIFIC LABORATORY OF PARKE, DAVIS & Co.,
DETROIT, MICH., August 25, 1917.

CONVENIENCES IN THE STOCK ROOM.*

BY WILLIAM MITTELBACH.

The proper storing and protection of surplus stock is worth the thought of the druggist or merchant, and adds to the value of his resources. The surplus stock put away in the cellar or other room should be protected from light and dust. For that purpose I have utilized the boxes obtained from my jobber at various times, by hinging the lid and placing the box so that the door keeps closed by gravitation (see illustration No. 1). In these boxes are stored patents, proprietaries, chemicals and other packages of like nature.

To protect stock bottles containing liquids, I use empty beef extract jars, or small glass tumblers placed over the top of the bottle, as is shown by illustration No. 2. For storing the official syrups, put up in small bottles, as is directed by the Pharmacopoeia, a dumb elevator constructed, as indicated in illustration No. 3, is a splendid and useful fixture. The syrups can all at times be kept in the cellar and can readily be elevated to the store floor when needed. The arrangement need not be large, and can be built in some convenient, out of the way corner of the prescription department.

Small quantities of fluid extracts remaining in pint bottles and not often used should be transferred to 4-oz. bottles. Some additional shelf room is gained by this, and you have the opportunity of seeing the condition of the extract.

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Atlantic City meeting, 1916.

THE PASSING OF THE PH.G. AND PH.C. DEGREES.*

BY L. E. SAYRE AND C. FERDINAND NELSON.

Within the past few months a decision has been reached by a body of University men which bids fair to be of momentous consequence to the profession of Pharmacy. Already a number of faculties have approved the action of the Committee on Academic and Professional Degrees of the Association of American Universities which recommends that degrees be abolished for all college courses not requiring at least four years of work for graduation. The Ph.G. and Ph.C. degrees both come under the ban of this recommendation and may therefore in the future possibly cease to be recognized as degrees in the sense in which the term is employed by college authorities and members of the profession.

What attitude should pharmacists take toward this proposed action?

At first, it appeared to us ridiculous that any committee should attempt to refuse to recognize degrees such as the Ph.G. and Ph.C., both of which are now so well established and in fact as established as the degree of M.D. We are sure that the majority of pharmacists will resent it as we did. And yet, on closer study the reasons behind the committee's action appear to be fundamentally sound and in a sense inevitable, owing, particularly, to the fact that the scientific developments of the past century have multiplied infinitely the amount of information that a professional student must acquire before he can be considered as at all competent. The amount of cultural work required for admission to professional courses is also constantly on the increase.

Medicine and dentistry have both recognized these modern demands and have as a result increased their courses proportionally. We have not materially changed our curriculum and very probably we are not ready to do so at once.

We should, however, admit the reasonableness of the committee's recommendation. It would be of immense value if our state boards of pharmacy would recognize a certificate guaranteeing the same amount of work as at present our degrees do, and then it would matter little, for practical purposes, whether a certificate or diploma be granted; for, if the committee's recommendation should finally pass, and our schools of pharmacy should continue to issue diplomas on a basis lower than that recognized by reputable universities and other professional schools, it will, as we view it, only tend to lower the standing and dignity of the profession. No pharmacist wants more than he has earned, and if it is to be the consensus of opinion of the large majority of university faculties that a degree shall represent at least four years of college work superimposed on four years of high school attendance, then we should reserve our degrees for the four-year pharmacy course and issue certificates for the Ph.G. and Ph.C. courses. How far the majority of retail druggists, upon whose decision this finally rests, will support this matter remains to be seen.

*EDITOR'S NOTE:—As indicated by the authors, the abolishment of the Ph.G. and Ph.C. degrees will find strong objectors, but it is also pointed out that action has already been taken in the matter and therefore the subject should be brought to the attention of the Association, the American Conference of Pharmaceutical Faculties, the National Association of Boards of Pharmacy and pharmacists generally.

That the preparatory and professional training time for pharmacists must be increased if we hope to hold our own with other professions cannot be denied. Whether more time should be given to liberal training or to added professional courses is becoming a question of paramount importance. This is made especially evident by the recommendation of the above mentioned committee.

We wish to make it clear that we recognize the value, force and dignity which the Ph.G. and Ph.C. degrees have had and what they stand for. No possible action on the part of any body in the future can in any way detract from or diminish the value of the degrees already conferred. But, if, as we have supposed and which now appears possible, a degree shall be defined as consisting of nothing less than four years of college work, then unless these degrees would represent the same amount of training their value is bound to deteriorate. It is on this basis that we would finally be forced to urge the substitution of a certificate for a diploma.

THE TRIPLE ALLIANCE IN MILITARY MEDICINE.*

BY J. MADISON TAYLOR, A.B., M.D.¹

The domain of Military Medicine is a blend of three major components or subjects: medicine, dentistry and pharmacy, with sanitation and hygiene essential factors of each; veterinary surgery is a branch. As to which one of these three departments of human welfare effort shall be esteemed paramount, there may be justifiable variants of opinion. There can be no question but each is on a practical par with the others in the objects they aim to achieve.

The first line of defense is the Medical Corps, for the reason that they pick the fighting men as no others can. Without this critical selection there would come together a mere herd of dubious candidates—most expensive by reason of potential defectives and dependents. The second line of defense we may safely claim is also that of the military surgeons because theirs is the responsibility of putting these men in conditions of highest efficiency, of keeping them there, of forefending them from all preventable decrepitudes, of repairing them when damaged and of restoring them to the trenches, of reducing to a minimum their dependence upon either the Government pay rolls or the public charge. Can you beat that for a man's sized contract?

In the process of preventing the preventable depreciation of life and vigor and fighting power, the Medical Corps must qualify as ceaselessly vigilant, first-class experts in testing all suspicious objects, sources of lurking perils among which are drinking water, foods, soils, infective agencies, environments, climates, dwelling or sojourning sites whether outdoors or indoors or in a ship. There is included demand for expertness in chemistry, in bacteriology, in all the departments of clinical laboratory proficiencies. The time and strength and multi-

* Read before a Joint Meeting of the Philadelphia Branch of the American Pharmaceutical Association and the National Pharmaceutical Service Association, and submitted for publication consentaneously in the *New York Medical Record* and in the *JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION*.

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tudinous demands made on the surgeon, notably in time of active participation in war, bring him to the verge of over-strain and then he absolutely must have expert help because he cannot do it all and act as administrator besides.

Frankly, the development of Military Medicine has long outgrown the archaic and wholly unsatisfactory methods and practices of even as late as 1898 and demands complete readjustment in certain particulars.

The one outstanding deficiency is in the domain of expert pharmacy. All demur, all hesitation to supply full quota of modern pharmacists, can be met by making clear what he is now uniformly trained to supply; *viz.*, expert knowledge in physiologic and pathologic (medical) chemistry, proficiencies in laboratory tests of urine, feces, gastric contents, of blood, Wassermann, Widal, and transfusions of blood, intravenous treatments, surgical dressings and diverse allied subjects and facilities; also examination of drinking water, foods, soils, localities, drainage, details of sanitation, also in diverse clinical laboratory manipulations, at least as to details of matters to which the surgeon may be wholly unable to do justice.

There is therefore fullest justification for a triple alliance between surgeons, dental surgeons and expert pharmacists; otherwise the practical efficiency of the fighting, the executive and the financial personnel must indubitably and seriously suffer.

The Temple University was the place and Dr. Sajous the man who devised and organized a plan, now in operation, of a Triple Cadet Organization of medical, dental and pharmacy students officered by members of the faculty.

The status of pharmacy as a profession in this country lacks much of what it deserves largely through the neglect or apathy of the profession of medicine and one reason is the crass commercialism which still lingers in her territories. Now pharmacy is just as much a profession *per se* as any other high-class industry progressing on a plane of lofty ethics and strict scientific conditions.

Pharmacy is as full a correlate of medicine as is dentistry or veterinary surgery, and her proponents are qualified to enjoy full recognition of the military and other bureaus. And yet to-day the medical profession, or corps, in the military service, fails to give scientific pharmacy that just encouragement and support essential not only for its best growth and development but also acting as the cordial handmaid, contributing to the solidarity of medicine as a whole.

Not more so-called pharmacists are needed in the service, but *real ones*, trained in the full scientific, as well as practical methods now demanded of students in the better schools of pharmacy. Indeed the use of drugs has notably diminished of late because of the increasing efficacy of preventive and reconstructive measures.

The number of drug stores, apothecary shops or pharmacies are rapidly becoming more numerous than needed, yet they are of much use and the proprietor must live, hence the temptation to deal in nostrums and blatantly overpraised objects correlated with remedies. The correction of abuses, it would seem, might be effected by a greater sympathy and mutual appreciation of the domain of each, especially when the pharmacist is called upon more to exercise his skill as chemist, analyst, laboratory clinician and in other ways to coöperate in the day's work of the physician. The scientific spirit among pharmacists is absorbing attention, devotion and increasing personal sacrifices with great speed and force.

My interests in therapeutics are in other measures than drugs, yet for years I have been impressed by the splendid research work that the American Pharmaceutical Association has been doing for our benefit, quietly, unobtrusively, honestly and practically unknown to the medical profession. This is set forth candidly in the annual report on the Progress of Pharmacy and in its exceedingly able JOURNAL; also the research work of the splendid *American Journal of Pharmacy* for nearly a century past; these publications embrace thousands of pages of scientific matter better known and appreciated in foreign countries, I believe, than it is in our own.

It seems to me that the time has come for full correlations in which the medical profession should do all in its power to get shoulder to shoulder with sister professions. The first step could well be that advocated by the *Journal of the American Medical Association* when it urges the recognition of pharmacy as a profession by the Medical Department of the U. S. Army and Navy. Such a recognition would go a long, long way toward placing the practice of pharmacy in this country in a satisfactory position to the world to demonstrate its effectiveness.

What stands in the way? Apparently, the attitude of the Surgeon-General of the Army who has expressed himself as opposed to the recognition of professional pharmacy in the Army as being "unnecessary" and second, that if recognized it might necessitate the manufacture of medicinal preparations by Army pharmacists, and this would "offend" the large manufacturing pharmacists of the country who furnish the medical supplies. The Surgeon-General is a man of deep penetration; in this instance, however, he has not given the subject the attention it deserves; when he does, he will be more liberal and appreciate the present status.

It is claimed little or no place exists in military medical practice for the use of drugs, that the vital issues are surgical and sanitarial, and that drugs "if" (or when) needed, can be met by the use of "ready to use" products, tablets and the like, conveniently handed out by physicians, or by privates with little or no special training.

The answer to this is, of course, that proper results in clinical work cannot be attained without proper and adequate tools. One might as well urge that the Army surgeon should use "First Aid Packets" *only* in the surgical handling of the wounded, as to say that the military surgeon should be supplied only tablets for the treatment of diseased conditions.

The men of the trenches, God bless them, are entitled to the best possible pharmaceutical skill as well as other skill when ill, fully equivalent to what is available in civil life. Less than this is rank injustice or worse.

In normal times the fighting man, it is true, requires little medical treatment, and, also, probably during the first year of war, but when the bodies of our boys are wrecked and being repaired surgically, however skillfully done, disease conditions supervene. In a short time all Army hospitals will be filled to overflowing, not only with surgical, but also with medical cases demanding highest medical skill to reclaim. Why then should not our men have the best pharmaceutical skill to make more effective the medical skill?

So far as the second objection of the Surgeon-General is concerned, Editor Mayo, of the *American Druggist*, is in the right when he says there is no foundation for the fear expressed of venality. The first-class manufacturing pharmacists

of this country are as patriotic as any other group. The amount of Government business they receive, in comparison with their general and regular business, is exceedingly small. It is more than probable that the Government contracts afford them negligible profits. They might be glad for relief from the business. Their services and their products are offered not for revenue only, but from patriotism.

I need only mention here the enormous assistance that the pharmacists as now taught and trained could be to medical men not alone along pharmaceutical, chemical, toxicological, bacteriological, but in X-ray and other lines. I have emphasized this in a paper published recently in the *New York Medical Journal*.

H. R. Bill 5531 introduced by Representative The Hon. Geo. W. Edmonds, of Philadelphia, in the House of Representatives on July 25, 1917, is an excellent and important one, and I believe that this Bill covers the field comprehensively and creditably. Doubtless it may need amendment in technical military details to meet the needs of the Army and Navy.

I express the hope and believe that the "brief" filed with Surgeon-General Gorgas by the pharmacists on August 10, 1917, will receive sympathetic attention. This extraordinarily able official could perform no act of public service more to the benefit of the medical department and his credit than the recognition of skilled, highly trained professional pharmacists, by supporting H. R. 5531 as an administration measure. His predecessor, Surgeon-General Torney, had established the Dental Corps and the Veterinary Corps. It would be peculiarly fitting if Surgeon-General Gorgas could have established the Pharmaceutical Corps.

SPECIAL CENSUS OF COAL-TAR PRODUCTS.

Section 501 of the Act of Congress dated September 8, 1916, provides for the taking of a special census of the production of intermediates, dyes, and other coal-tar products in the United States. The act provides: "If, at the expiration of five years from the date of the passage of this Act, the President finds that there is not being manufactured or produced within the United States as much as sixty per centum in value of the domestic consumption" of intermediates and dyes, medicinals, and other finished products, "he shall by proclamation so declare, whereupon the special duties imposed by this Section on such articles shall no longer be assessed, levied, or collected." The President has requested the Tariff Commission to undertake the collection of information necessary for the exercise of this power.

The Commission is preparing for a systematic census of the production of all coal-tar products in a broad sense, including intermediates, dyes, medicinals, flavors, photographic chemicals and synthetic phenolic resins.

SECTION ON PRACTICAL PHARMACY AND DISPENSING, AMERICAN PHARMACEUTICAL ASSOCIATION

MINUTES OF THE SESSIONS.*

The first session of the Section on Practical Pharmacy and Dispensing was called to order by Chairman W. H. Glover in the Claypool Hotel, Indianapolis, Wednesday, August 29, 1917, at 2.00 P.M.

Owing to the absence of the Secretary, Louis Saalbach, of Pittsburgh, Pa., was elected to serve in that capacity. The first order of business was the reading of the Chairman's Address, which follows:

THE CHAIRMAN'S ADDRESS.

FELLOW MEMBERS: We meet again to exchange ideas and to acquire information from those who have made special study of problems connected with manufacturing and dispensing pharmacy.

While undergoing many changes, our calling is slowly but surely advancing. The increased responsibilities placed on us by narcotic and other laws are showing the public that the pharmacist is a professional man as well as a tradesman. I do not think it possible for the average pharmacist to conduct a strictly professional or so-called "ethical" drug store, especially when the public expect to find drug stores on prominent corners, in sections where rents are high. Nevertheless, my own experience, in a manufacturing city, has shown me that a lucrative prescription business can be built up and kept as the core of the store, so that the side-lines remain subordinate to it.

Although we frequently hear that the prescription business is a thing of the past, I am convinced that the pharmacist who has the spirit of his profession and will go after such business can get it; but this is real work, and there is little hope for the man who sits down and spends his time complaining because the things he wants do not come to him of themselves.

I believe the physician will be the druggist's best friend, if the druggist cultivates him and seeks to understand his point of view. Let him see that you are interested in your work and in his, and that you like to make fresh batches of his favorite recipes for pills, capsules, emulsions, suppositories, and so on. Be persistent in propaganda work on U. S. P. and N. F. preparations. We know that there are many valuable preparations in these two books, but the physicians need to be shown their merits, in the same way that he is shown the merits of similar proprietary preparations by detail men who are necessarily clever in their work. An occasional sample of a nice lot of some elixir or other preparation will often convert a physician to what becomes a permanent habit of prescribing that preparation.

We hope that a part of the time at one of the sessions of this Section will be devoted to the discussion of some of those preparations which are troublesome to prepare of satisfactory quality. Such informal discussions are very profitable, as they bring out the results of the experiences of many of us who are not in the habit of writing formal papers.

The pharmacist is not escaping his share of the inconvenience and suffering due to the great world war, and we hope that the trying times through which we are passing will soon be over.

The address was referred for publication.

The report of the Committee on National Formulary was presented by the Vice-Chairman, Wilbur L. Scoville (see Committee Reports).

A paper entitled "The Original Package" by L. E. Sayre was read and after discussion referred for publication (see p. 958, November issue).

The report of the Committee on U. S. Pharmacopocia was presented by Chairman L. D. Havenhill (to be printed).

* Papers and discussions thereon are printed apart from the minutes, also reports of committees; only mention of these will therefore be made in the minutes of the sections.

A paper by H. V. Arny on "The Tyranny of the Teaspoon" was read, discussed and referred for publication (see p. 1056).

W. L. Scoville presented the report on the A. Ph. A. Recipe Book; the recommendations therein were indorsed and referred to the Council for action.

(See proceedings of the 5th session of the Council.)

The following papers were then read, discussed and referred for publication:

"A Study of Some Percentage Solutions," by Theodore J. Bradley (see p. 955, November issue).

"Liquors of the U. S. P. and N. F.," by Edward Kremers.

Following the discussion of the papers, the first session of the Section was adjourned.

The second session of the Section on Practical Pharmacy and Dispensing was convened Thursday, August 30, at 9.30 A.M. The minutes of the first session were read and approved.

A paper by Albro Newton on "Creating Impressions" was read and referred for publication.

Then followed a "Prescription Clinic" conducted by Charles H. LaWall and Ivor Griffith. (This will be printed in a later issue of the JOURNAL.)

A paper by Mrs. St. Claire Ransford-Gay on "Carrel-Dakin Solution" was read and discussed.

Nominations of officers for the ensuing year being called for, the following names were presented:

Chairman, J. C. Peacock, of Philadelphia.

Secretary, R. W. Terry, of Grove Port, Ohio.

Associates, Edward Spease, of Cleveland, and I. A. Becker, of Chicago.

The second session of the Section was then adjourned.

The third session of the Section on Practical Pharmacy and Dispensing was called to order by Chairman W. H. Glover, Friday, August 31, at 2.00 P.M.

The minutes of the preceding session were read and approved.

The following papers were read, discussed and referred for publication:

"Elixir of Iron, Quinine and Strychnine Phosphate," by W. H. Glover.

"Manna as an Excipient for Soft Mass Pills," by William Maske, Jr.

"Disintegration of Pills," by William Maske, Jr.

Then followed a general discussion of U. S. P. and N. F. preparations, especially relating to advantages and disadvantages incurred by changes in formulas and manipulations.

There being no further nominees, the officers nominated at the preceding session were elected and installed.

The final meeting of the Section was then adjourned.

THE TYRANNY OF THE TEASPOON.*

BY H. V. ARNY.

In preparing a paper for a medical journal on the use of the metric system in prescriptions, the writer was struck by the fact that in the calculation of doses of liquid medicines directed in the average prescription, those written for metric quantities presented little or no time-saving advantage over those prescribing medicine in terms of apothecary weights and measures. A study of the situation revealed the cause of this curious state of affairs. The directions to the consumer of the average liquid prescribed medicine calls for drop doses or teaspoonful doses.

This is not the time to discuss the fallacy of drop doses, but in passing, it might be stated that in one prescription cited in the paper just mentioned, each dose of mercuric chloride called for was either 0.8 or 0.3 milligramme according as to whether the 12 mils of finished prescription contained 25 or 75 seven-drop doses, with a strong presumption that the latter figure was correct.

But the problem concerns teaspoonful doses. Discussion of this matter, notably in the contributions of our lamented friend M. I. Wilbert, led to the adoption by this Association in 1902 of a resolution (*Proc. A. Ph. A.*, 50, 413, 1902), which read as follows:

"RESOLVED, That for use in connection with the metric system of weights and measures, the adoption of the following approximate equivalents of spoonfuls:

"1 teaspoonful equals 5 Cc.

"1 desertspoonful equals 2 teaspoonfuls, or 10 Cc.

"1 tablespoonful equals 3 teaspoonfuls, or 15 Cc."

Despite this resolution, which was also adopted by the Section on Pharmacy, Materia Medica and Therapeutics of the *American Medical Association* in 1903, both revisions of the United States pharmacopoeias appearing since that time have given in a table of approximate measures the value of a teaspoonful as 4 mils.

My contention is that such a standardization bodes ill for the popularization of the metric system in prescribing and that we should take what steps we can to enforce the 5-mil basis for the teaspoonful even as directed in the French and Belgian pharmacopoeias.

The metric system is a decimal system and all units used in connection with it should be figures in harmony with decimal units. This is not the case with the figure "four." If the teaspoon is considered as holding four mils, then the only logical liquid prescriptions would be those calling for 100, 200, 300, 400 or 500 mils. A 50-mil mixture will contain $12\frac{1}{2}$ teaspoonfuls of 4 mils each, a 25-mil mixture will contain $6\frac{1}{4}$ teaspoonfuls. To prescribe by the octonary system, 16, 32, 64-mil mixtures is merely to prescribe by the old system in somewhat masqueraded form.

On the other hand, if the 5-mil teaspoonful obtained here as in France, we

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Indianapolis meeting, 1917.

would have a unit in entire harmony with the metric system and the doctor could prescribe 10, 25 or 50-mil mixtures with an assurance that such mixtures would represent an exact number of teaspoonfuls.

But how about the capacity of the average teaspoon? Already much has been written about the folly if not danger in using domestic teaspoons for the administration of medicines. Choosing at random in my own home, nine teaspoons, I found their capacities were 4.6, 5.5, 5.8, 6.0, 3.8, 7.8, 5.5, 6.1, 7.8 mls, respectively. I also found that one molded medicine glass used in my household measured 3 mls to the teaspoonful and 7.4 mls to the desertspoonful, while a second more accurate one measured 4 mls to the teaspoonful and 7.7 mls to the desertspoonful.

Eliminating from the above teaspoons, the two holding 7.8 mls, as short desertspoonfuls, we have in one home seven kinds of teaspoonful with only one approaching the 4-mil basis, all the others being closer to the 5-mil than to the 4-mil mark.

Thanks to the propaganda conducted by the pharmacists of this country under the leadership of the American Pharmaceutical Association, the public is learning to use measuring glasses, and the only unfortunate feature of the propaganda is that, following the lead of the Pharmacopoeia, the average American medicine glass is based upon the 4-mil teaspoon.

There is still time to correct this error, for it is certain that the comparatively few manufacturers of medicine glasses in this country would be progressive enough to modify their molds on a 5-mil basis, if there were sufficient demand for the change. Moreover, the values of the two average medicine glasses referred to indicate the need of some revision of this handy and useful appliance.

Our Committee on Weights and Measures can perform a distinct service along the lines already laid down by the Association in its resolution of 1902, first, by seeing that the pharmacopoeial standards for domestic measures be placed upon a 5-mil teaspoon, a 10-mil desertspoon, and a 15-mil tablespoon; and secondly by persuading manufacturers of medicine glasses to adopt the same 5-10- and 15-mil standards.

ABSTRACT OF DISCUSSION.

R. W. TERRY: I would like to ask Professor Arny how the teaspoonful was measured, brimful or levelful?

H. V. ARNY: Mr. Wilbert, on this very subject, pointed out that it was not merely the teaspoon, but how the teaspoon was filled, that the capacity of the teaspoon could be increased anywhere from 25 to 50 percent. I tried, as nearly as possible, to make it levelful.

CHARLES H. LAWALL: I do not wish to be considered at all as disagreeing with Professor Arny about the propriety of change, but I do see an inconsistency. In his argument he assumes that the four cubic centimeter teaspoon would not lend itself to the dispensing of medicine on the metric basis of 50 or 100 mls because it would not come out even. I do not think it would be possible ever to measure so accurately, even with a medicine glass, as to make the doses come out even.

E. H. WISNER: We will no doubt in time come to use 50-mil prescription bottles and 100-mil bottles rather than 6-ounce and 4-ounce bottles, and when that time comes the physician probably will no longer prescribe teaspoonfuls and tablespoonfuls, but he will prescribe mil doses.

I. A. BECKER: Why not get away from the teaspoon, which is a very poor measure, and have measuring glasses and metric quantities only? I think the thing to do is to get away from the old style of measure entirely and advocate only a metric measure.

R. B. BIRD: "You can lead a horse to water, but you can't make him drink." The public and physicians must be educated, if it is desired to carry our ideas into effect.

T. J. BRADLEY: This question of our advocating the use of metric doses rather than teaspoon doses is an ideal which is probably impossible; but if it is possible, it could probably be brought about if we could induce the manufacturers of medicine glasses to mark their glasses both ways: on one side of the graduation line "1 teaspoonful" and on the other side "5 mils" and then above that on one side "1 desertspoonful" and on the other side "10 mils." I fully agree with Mr. Bird that we can lead the horse to water and not make him drink. We cannot compel the physicians or the public to take mil doses until they are educated to know them.

J. A. HANDY: Let the manufacturers and pharmacists start using the metric system first, buy according to the metric system and manufacture according to the metric system, and then change the medicine glasses and educate the public.

L. F. KEBLER: In my opinion, as long as we teach the other systems of weights and measures and do not teach the metric system in our public schools, we are not going to get anywhere. Why do we not insist on that line of education if we expect to establish the metric system? I think that our educators ought to look to that feature. It is a very important point. It ought to be taught in our schools, particularly the high schools, and I think by so doing we would be successful in general adoption.

J. C. PEACOCK: I see on the list we have a paper entitled "More Profits within Your Reach." I am going to profit by this discussion. When I go back home I am going to write on the label hereafter "Take 5 mils every three hours," and then have the customer buy a medicine glass. We have two physicians who write in the metric system and designate the teaspoonful by 5 Cc. I will write on the label in that way and excite the curiosity of the public to know what that means, and we will sell them medicine glasses when they come back. I think that is one of the practical ways of helping along the proposition—write the metric dose on the label.

MANNA AS AN EXCIPIENT FOR SOFT MASS PILLS.*

BY WILLIAM MASKE, JR.

Several manufacturers are now exploiting soft mass pills. It is said that these soft mass pills have a decided advantage over the ordinary varieties in that the latter soon become hard and consequently difficult to digest. Soft mass pill formulas are kept secret by proprietary manufacturers, and so the retail druggist has little chance of dispensing such pills in prescription routine.

In experimenting with the use of manna as a general pill excipient, the writer succeeded in getting two excellent soft mass pill formulas. As these may be of some use to pharmacists, he takes the liberty of contributing them to the profession.

Manna as a pill excipient has been favorably commented upon by German writers,^{1,2} which they recommend to be used in combination with starch, yellow dextrin, white dextrin, chalk, gentian, light magnesium oxide, heavy magnesium oxide or glycyrrhiza, as diluents, and water. Noticing, too, the gummy and pliable consistency of manna, the writer conceived the idea of using it as a soft mass ingredient.

The diluents were all of those suggested, but glycerin was substituted for the water. Two of these formulas produced ideal soft pill masses. These are the following:

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Indianapolis meeting, 1917.

¹ *Jahresbericht der Pharmazie*, 42, 342, 1907. P. Carles, "Manna als Pillenmasse."

² *Ibid.*, 46, 246, 1911. E. Otto, "Ueber die Bereitung von Pillen."

Formula I—Manna 1 part, Glycyrrhiza 1 part, Glycerin Q. S.

Formula II—Manna 2 parts, Yellow Dextrin 5 parts, Glycerin Q. S.

The writer has kept pills made by these two formulas in ordinary pasteboard pill boxes (not the hermetically sealed containers in which market soft mass pills are sold) for over a year; and at the end of that time, these same pills could be squeezed up and re-rolled, as readily as the day on which they were first made, showing that the pliability of these masses after one year's standing is perfect. Furthermore, in another experiment in which the writer subjected these and also market soft mass pills to disintegration tests, he found that these two varieties of soft mass pills disintegrated much more quickly than the proprietary articles. The only difficulty in the way of making these two masses is the fact that the grinding up of the manna with the diluent is an operation which requires not a little "elbow-grease," but to the average druggist, who is continually complaining that he does not get enough exercise, especially in his upper extremities, this operation should prove beneficial, rather than harmful.

UNIVERSITY OF WASHINGTON,
COLLEGE OF PHARMACY.

DISINTEGRATION OF PILLS.

BY WILLIAM MASKE, JR.

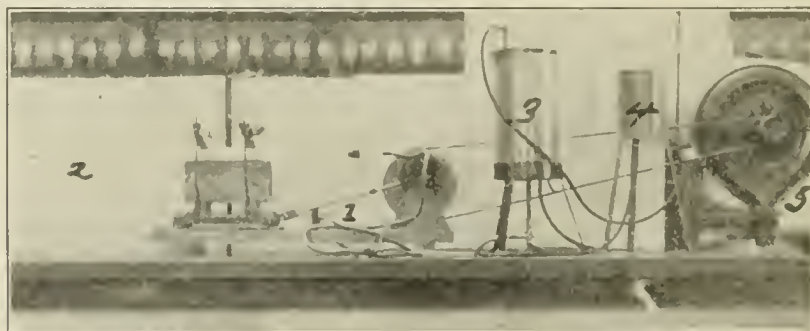
Realizing that it might be of some interest to know the relative rate of disintegration of various pill masses, and that very little about this subject is to be found in the literature, the following work was done in order that some data may be available. The writer realizes that a mechanical digestion is indeed a very poor imitation of what the human body actually does; he also does not wish the following figures to be taken as the actual time in which these various masses disintegrate in the human body; but this much is in all probability true: that the ratios of the time of disintegration of the pills by mechanical means (especially in the last set) and those of the time of disintegration in the human body do not differ very much.

Two methods were used. The first was somewhat crude, but the results are nevertheless of some interest, so they are herewith given. The experiment is briefly this: Into a number of beakers there was placed an aqueous solution of $\frac{3}{10}$ percent pepsin and $\frac{1}{2}$ percent hydrochloric acid. These were then heated in a bacteriological incubator at 37° C. When the solutions had reached this temperature, the various pills were immersed in the solutions, and observations made every fifteen minutes. The pills were all blanks, containing no medicinal ingredients, and were all made exactly the same size, and were the same age, so that the time records would be fair for all the different masses. Following is a table of results:

Pill Mass.	Time.
1 Glycyrrhiza, 1 part; manna, 1 part; glycerin, q. s. (soft mass).....	15 minutes
2 Dextrin, 5 parts; manna, 1 part; glycerin, q. s. (friable mass).....	30 minutes
3 Dextrin, 5 parts; manna, 2 parts; glycerin, q. s. (friable mass).....	45 minutes
4 Althaea; syrup, q. s.....	45 minutes
5 Magnesium oxide, 3 parts; manna, 1 part, glycerin, q. s.....	45 minutes

Pill Mass.	Time.
6 Glycyrrhiza; confection of rose, q. s.....	1 hour
7 Althaea; confection of rose, q. s.....	1 hour
8 Althaea; syrup of glucose, q. s.....	1 hour
9 Glycyrrhiza; syrup, q. s.....	1 hour
10 Magnesium oxide, 2 parts; manna, 1 part; glycerin, q. s.....	1 hour
11 Glycyrrhiza; syrup of glucose, q. s.....	1 hour 15 minutes
12 Glycyrrhiza; glycerite of tragacanth, q. s.....	1 hour 15 minutes
13 Althaea; glycerite of tragacanth, q. s.....	1 hour 15 minutes
14 Starch; syrup of glucose, q. s.....	1 hour 15 minutes
15 Starch; glycerite of tragacanth, q. s.....	1 hour 30 minutes
16 Acacia; water, q. s.....	1 hour 30 minutes
17 Acacia, 1 part; tragacanth, 1 part; water, q. s.....	1 hour 30 minutes
18 Bland's pill.....	1 hour 30 minutes
19 Magnesium oxide, 3 parts; manna, 1 part; water, q. s.....	1 hour 30 minutes
20 Dextrin, 5 parts; manna, 1 part; water, q. s.....	1 hour 30 minutes
21 Tragacanth; water, q. s.....	1 hour 45 minutes
22 Magnesium oxide, 2 parts; manna, 1 part; water, q. s.....	1 hour 45 minutes
23 Dextrin, 5 parts; manna, 2 parts; water, q. s.....	2 hours
24 Hard mass, manufacturing firm (Sample 1).....	2 hours
25 Hard mass, manufacturing firm (Sample 2).....	2 hours 15 minutes
26 Soft mass, manufacturing firm (Sample 1).....	3 hours
27 Soft mass, manufacturing firm (Sample 2).....	3 hours
28 Kaolin and petrolatum.....	Did not disintegrate

This experiment was repeated, but this time much more care was used. An apparatus was set up which gave not only the temperature and chemical composition of the stomach contents, but mechanical motion as well. Onto a car used for mechanical shaking, a glass tube of $\frac{3}{4}$ inch diameter was clamped. On each end was placed a paraffined cork having a piece of glass tubing inserted. One end was connected with a continuous flow water heater of the type used for refractometers,



1, Mechanical Shaker. 2, Tube serving as jacket for vials containing pills. 3, Thermostat and heater
4, Can used to maintain constant water pressure. 5, Water motor.

and the other end led to the drain. The connection between the water heater and glass jacket had an outlet tube leading to the drain so that when once the temperature of 37° was reached, the apparatus would not have to be shut down when filling the glass jacket. Each kind of pill was placed in a separate 2-drachm

vial in which a solution of artificial gastric juice was placed. This solution has the following composition:

Water.....	99.44 percent
Pepsin.....	0.32 percent
Hydrochloric Acid.....	0.25 percent
Sodium Chloride.....	0.14 percent
Potassium Chloride.....	0.05 percent
Calcium Chloride.....	0.006 percent
Calcium Phosphate.....	0.015 percent

The vials were all tightly corked. They were then quickly placed in this jacket, and the apparatus was set in motion. The pills used in this experiment were about six weeks old, which was sufficient time to harden them. Results with a given pill were somewhat irregular so four different trials were taken with each pill and an average taken of the four readings. The following table of results will show how differently the masses behave than in the first table, which is merely a "test-tube phenomenon." The writer can state the difference in a striking way by stating that he has yet to find an enteric pill in which the supposed acid-resisting coating does not come off in an hour and a half when tested by this apparatus, even when slow shaking is used.

RESULTS.

Pill Mass.	Trial.				Average.
	1	2	3	4	
1 Starch; syrup of glucose, q. s.....	4	4	4	4	4 minutes
2 Yellow dextrin, 5 parts; manna, 1 part; glycerin, q. s.....	7	7	6	8	7 minutes
3 Yellow dextrin, 5 parts; manna, 2 parts; glycerin, q. s.....	7	9	9	7	8 minutes
4 White dextrin, 5 parts; manna, 2 parts; glycerin, q. s.....	7	9	8	9	8 minutes
5 Yellow dextrin, 5 parts; manna, 1 part; glycerin, q. s.....	12	10	9	10	10 ¹ / ₄ minutes
6 Yellow dextrin, 5 parts; manna, 2 parts; water, q. s.....	12	10	10	11	10 ³ / ₄ minutes
7 Althaea; confection of rose, q. s.....	12	11	12	11	11 ¹ / ₄ minutes
8 White dextrin, 5 parts; manna, 1 part; water, q. s.....	12	12	13	11	12 minutes
9 Althaea; syrup of glucose, q. s.....	13	12	12	14	12 ³ / ₄ minutes
10 Glycyrrhiza; confection of rose, q. s.....	15	12	16	13	14 minutes
11 Glycyrrhiza, 1 part; manna, 1 part; glycerin, q. s.....	17	16	17	20	17 ¹ / ₂ minutes
12 Bland's pill.....	19	17	20	17	18 ¹ / ₄ minutes
13 Bland's pill.....	19	18	18	21	19 minutes
14 Glycyrrhiza; syrup of glucose, q. s.....	21	18	18	20	19 ¹ / ₄ minutes
15 Acacia, 1 part; althaea, 2 parts; water, q. s.....	25	27	26	29	26 ³ / ₄ minutes
16 Starch; glycerite of tragacanth, q. s.....	39	33	32	41	37 ³ / ₄ minutes
17 Althaea; syrup, q. s.....	36	38	39	35	39 ¹ / ₂ minutes
18 Glycyrrhiza; syrup, q. s.....	43	45	48	41	44 ¹ / ₄ minutes
19 Soap, 1 part; glycyrrhiza, 2 parts; water, q. s.....	52	54	57	50	53 ¹ / ₄ minutes

RESULTS—(Continued).

Pill Mass.	Trial.				Average.
	1	2	3	4	
20 Soap, 1 part; althaea, 1 part; water, q. s.	1:21	1:28	1:19	1:27	1 hour 23 ³ / ₄ minutes
21 Althaea; glycerite of tragacanth, q. s.	1:28	1:20	1:34	1:29	1 hour 27 ³ / ₄ minutes
22 Acacia; water, q. s.	1:26	1:29	1:31	1:29	1 hour 28 ¹ / ₄ minutes
23 Acacia, 1 part; tragacanth, 1 part; water, q. s.	3:43	3:48	3:53	3:51	3 hours 48 ³ / ₄ minutes
24 Tragacanth; water, q. s.	6:53	7:15	7:12	6:56	7 hours 3 ¹ / ₂ minutes
25 Kaolin; petrolatum, q. s.	Not disintegrated at the end of 8 hours				

UNIVERSITY OF WASHINGTON,
COLLEGE OF PHARMACY.

ELIXIR FERRI, QUININAE ET STRYCHNINAE PHOSPHATUM.*

BY WILLIAM H. GLOVER.

It is to be regretted that this valuable Elixir was dropped from both the U. S. P. IX and N. F. IV. It would seem best at least to have recognized it in the latter book. As formerly made, it was quite troublesome and did not keep well, particularly in the winter months when, if chilled, it separated badly. If the method of making is slightly modified, a very satisfactory preparation is obtained. Being fortunate in having a large call for this elixir in my prescription department and thinking perhaps others have a similar demand, I offer the following formula which I have found very satisfactory. I claim no credit for it, as the changes have been suggested by Prof. Charles Caspari, Jr., and others in the pharmaceutical journals:

Soluble Ferric Phosphate.....	17.500 Gm.
Quinine.....	8.750 Gm.
Strychnine.....	.275 Gm.
Phosphoric Acid, U. S. P.....	2.000 mls
Ammonium Carbonate.....	5.100 Gm.
Alcohol.....	60.000 mls
Acetic Acid, U. S. P.....	16.000 mls
Distilled Water.....	....
Aromatic Elixir each q. s.....	....

To make..... 1000.000 mls

Dissolve the quinine and strychnine in the alcohol, then add the phosphoric acid previously mixed with 350 mls of aromatic elixir. Add acetic acid to ammonium carbonate in the flask and do not neutralize; add to solution of alkaloids. Dissolve the soluble ferric phosphate in 30 mls of distilled water and do not neutralize, add 250 mls of aromatic elixir, add this to above solution and after 24 hours, filter. By using the aromatic elixir warm, no precipitate is formed when solution of ferric phosphate is added to the solution of the alkaloids. This precipitate is very slow to dissolve when the mixture is cold. Finally, add aromatic elixir to make 1000 mls. This makes a very satisfactory product; however, it will darken with age, but I believe in making preparations like this often and in quantity which obviates the necessity of long keeping, and thereby the indicated trouble will be avoided.

* Read before Section on Practical Pharmacy and Dispensing, A. Ph.A., Indianapolis meeting, 1917.

SECTION ON EDUCATION AND LEGISLATION, AMERICAN PHARMACEUTICAL ASSOCIATION

A BAD SPELL OR WHO MIXED THE LETTERS?*

BY CHARLES H. LAWALL.

The spelling of English words is an art rather than a science. Rules are of little use. Good spellers are usually those who have a natural aptitude for arranging the letters of words in the form commonly accepted as correct. This aptitude may be developed and brought to a higher degree of accuracy, even in those who do not have it naturally, by paying attention to certain fundamentals which are involved.

These fundamentals should be, but commonly are not, taught in the early years of school life. They include the training of the eye, the ear and the mind so as to produce a composite effect in the direction of accuracy of the arrangement of the letters of words in conformity with customs existing in any given locality. There are seven large dictionaries of the English language, three of which, *Stormonth's*, the *Imperial* and the *Oxford*, are commonly used in England; the other four, *Worcester's*, *Webster's*, the *Century* and the *Standard*, are more frequently consulted in the United States.

All of these authorities do not agree in the spelling of every word, but the exceptions and usages are usually those of groups of words, such as those ending in *or* (*our*), as *color* (*colour*), *ize* (*ise*) in *authorize* (*authorise*), etc.

Simplified or phonetic spelling has also brought about some modifications in what is believed to be the interests of efficiency. Commendable as these changes may be, they have never become popular, probably on account of the shock to the sensibilities of those who have learned to spell in the old-fashioned way. As an example of what would happen if the suggestions of the Board for Simplified Spelling were universally and immediately adopted, the following paragraph will serve. It is made up from words included in one of the official lists of proposed changes:

"Scolars are slo to spel according to the new rules announst in this cuntry. The od looking words hav caused shril lafter from those who see caos in the change and will not dein to use them unless forst. A fotograf of a blachbord ful of these words is hideus."

Some are unkind enough to say that Artemus Ward and Josli Billings have been followed in making the selections.

Spelling is largely a matter of visualization. Good spellers are usually found among those who are great readers and particularly those who read for profit rather than for pleasure.

One of the features of many drug journals is the section or column allotted to humorous orders. The humor in these usually arises in the effort of the customer to spell the name of the article as it sounds to him. The clue to the inter-

* Read before Section on Education and Legislation, Indianapolis meeting, 1917.

pretation of these orders is usually found by repeating the order phonetically until the sounds resemble the name of something that is likely to be wanted. Subsequent interrogation of the customer usually changes the guess into a certainty. Such classic examples as "rose of spulement" for corrosive sublimate and "ogsalagaset" for oxalic acid are of the first degree of simplicity. Others are more obscure, yet when finally deciphered, are found to have the fundamental resemblance in sound to the name of the article desired, as referred to above.

This perennial source of amusement to the pharmacist is one of the compensations of being a victim to the long hours and many vexations of the business. How many drug clerks or even graduate pharmacists would make equally creditable attempts with the information at hand? To illustrate the point that a certain degree of familiarity with the word must exist so as to stimulate the power of visualization spoken of and as an example of what pharmacy students can do in the matter of phonetic spelling when their knowledge is vague and not accurate, the following examples are given of the attempts to render Quevenne's Iron into an intelligible form. The question asked the class was this: "What is the synonym of *Ferrum Reductum*?" This was the result of the efforts of the class:

Quebenzed	Iron	Quivence	Iron
Quivenz	Iron	Queevins	Iron
Quivens	Iron	Quenevins	Iron
Quevens	Iron	Quinvennes	Iron
Quinellays	Iron	Queveens	Iron
Quaevens	Iron	Quevenns	Iron
Quevenne's	Iron	Quevens	Iron
Quivennes	Iron	Queevens	Iron
Quevenes	Iron	Goenvennes	Iron
Quivenes	Iron	Quevenze	Iron
Quevenz	Iron	Queveenes	Iron
Kinzins	Iron	Queseviniis	Iron
Quiveens	Iron	Queen's	Iron
		Quivins	Iron

There is no particular discredit or disgrace attached to the foregoing examples. No attempt is made to teach spelling in the ordinary pharmaceutical curriculum. The large proportion of students who failed to spell the name correctly is a fair index of the proportion of careless or inaccurate observers in any class of equal size. To one who knows the correct form many of these are as funny as any misspelled order handed over the counter. In both cases the same underlying factor is apparent, *i. e.*, unfamiliarity with the subject coupled with a bold attempt at bluff.

Safeguard American men against unfair competition and they will take care of themselves. . . . If you make the processes by which small men are undersold in particular markets criminal, then you have freed America, and I for my part am willing to stop there and see who has the best brains.—Woodrow Wilson.

SOME IDEAS ABOUT THE TEACHING OF PRACTICAL PHARMACY.*

BY ZADA M. COOPER.

No doubt all teachers whether of theoretical or practical subjects hear over and over again comments like these: "Why must we learn this?" "What good will this do us?" "We shall never make use of that when we get out of college." Students are, perhaps, too much inclined to think only of the practical, utilitarian value of their curriculum and they do not realize, either, that they are not often competent judges of what is valuable. Only those who have completed the work and who can look back upon it, as a whole, in the light of some years spent in application of the knowledge gained, are competent to distinguish between essentials and non-essentials. Naturally students do not know this nor will they take anybody's word for it. Youth seldom accepts at face value the statements of experience. They cannot believe until they see for themselves. The universality of this attitude demands infinite patience and tact.

One can only try to have them understand that what to them may seem impractical is often quite practical; one must attempt the more difficult task of showing them that they are learning fundamental principles which make the foundation upon which they are to build the superstructure of practical knowledge; that without one, they cannot comprehend the other.

The student himself does not know in the beginning, much less does the instructor, which of the various phases of pharmacy he will finally adopt as his own. If it could be known in advance, some adaptation might be made, though probably the two years of college is none too much to make the foundation sufficiently broad for later specialization.

The teacher must keep constantly in mind the necessity of making the practical application of what seems purely theoretical; close correlation must be the aim. On the other hand, being aware of the attitude of the student body, teachers must be ever on guard against minimizing fundamentals in order to reach, quickly, the more practical features. Only the perfect instructor could maintain this nice balance and doubtless we all fail at times in one or the other particular, since, "to err is human."

I fancy one is much more likely to meet this criticism of lack of practicality in laboratory courses than in theoretical ones because in the latter the student may accept as unavoidable a certain amount of pure theory and, therefore, be less critical. In the laboratory work of courses in practical pharmacy one frequently hears the statement: "We shall never do this when we are in actual business. The statement is true at times, but it should also be true that those very preparations should be chosen with the idea in mind that even though it may not be practical to make them in the ordinary drug store, there is something involved in the process that students should know about. It may be a chemical reaction that can be better understood by seeing it; it may be some method which is typical of a class of preparations or possibly just the technique. Dr. Hadley has said something about an ideal education which is much more sweeping in its scope but whose principle is applicable here. It is that an ideal education is "one where

* Read before Section on Education and Legislation, A. Ph. A., Indianapolis meeting, 1917.

the student learns things that he is not going to use in after life but by methods that he is going to use."

It is true that pharmaceutical technique may be developed in a course by itself but a well planned course in manufacturing or galenical pharmacy will be sufficiently comprehensive to include all the processes and methods that would be taught in a separate course. The one should be interesting whereas it might be difficult to make the other anything but dull. It is only another instance of the advantage of the concrete over the abstract. For instance, familiarity with the various weights and their relations to each other will be acquired if formulas involving all systems are used in compounding. Each student, in his second year, if not from the very beginning, should have in his laboratory equipment not only metric and apothecary measures but his own prescription balance with both metric and apothecary weights and, for the bulky weighings which require it, larger balances and avoirdupois weights should be available. By a judicious system of checking, the senior student may be permitted to make all his own weighings and, little by little, almost unconsciously, he learns to think in terms of any system. Likewise, in his regular compounding he learns the applications of heat; for example, vaporization, distillation and sublimation. Ample opportunity arises to apply the principles of comminution, solution, filtration, precipitation, crystallization and percolation. A well chosen list of U. S. P. and N. F. preparations will insure skill in all ordinary manipulations and if such a list is supplemented by other formulas many difficult operations are learned.

Perhaps the ideal pharmaceutical laboratory is one which has a close connection with a hospital dispensary. However large the number of official preparations may be, many unofficial ones are called for, also, and the very great diversity opens up a real mine of practical information. Hospital affiliation also makes possible the compounding of large quantities sometimes. At first glance, that may seem insignificant, but with a little more thought it ought to be plain that if the student makes preparations only in quantities of a few ounces or a few mills he will be awkward and helpless if expected to prepare something in 5-gallon, 10-pound or 20-liter lots. If his preparations are always made in small quantities and he knows the work is experimental and that the finished product is to be thrown away he not only does not learn the technique of larger quantities but more than that he often does not feel the necessity of absolute accuracy. If it looks right and will pass the censorship to which it is subjected he is, perhaps, satisfied. If, however, he knows that it is to be administered to some patient in the hospital across the way he feels the responsibility of being absolutely right, he knows that life or health depends on its correctness. If he has a conscience he tries harder to make it right or, failing in some particular, even though the result would not show it, he admits his mistake at the risk of a lower rating, but because it might do harm.

Possibly that sounds like the millenium and it must be admitted that we haven't reached it even in Iowa and no doubt human nature remains about the same in Indiana or Pennsylvania. Frankly, we have always with us the conscienceless student who will be careless at any cost. Any system such as I have described means added responsibility for the teacher, much more careful scrutiny of everything, and, moreover, it means our presence, constantly, in the labora-

tory. But is it not worth while? If the student feels all through his college career the necessity of being right, will he not have acquired at the end of two years a developed conscience, an ingrained carefulness? Will he not have learned that he is serving the human race and that carelessness is criminal?

Closely associated with this idea of what is practical and what is not is the question of the advisability of preparing for student use a laboratory manual giving detailed information about each preparation. That such a system has some advantages cannot be denied, but they are so far outweighed by the disadvantages that bare mention of them should suffice. Briefly they are: fewer mistakes, assurance that each student has all of the explanatory notes that he needs and that if he reads the lesson at all he is not missing important points, a conviction that you have prevented copying from another's notebook, less labor involved in conducting laboratory classes. On the other hand, it is bad pedagogy, it subverts the whole conception of what constitutes study. Students do not learn to do things for themselves, like reducing or enlarging a formula or modifying it in some particular as we may often wish them to. They need this drill. Even if they make mistakes, and they are sure to make many, they will learn by those very mistakes. They learn, too, to be more careful. Above all there is an objection which in itself should be sufficient to preclude the adoption of such a system except for any but beginning classes. I mean the doing of a lot of work for a student. Every student needs to search out his facts himself, at least all that may be found in the common reference books. He will never do this if these facts are supplied him; his energy and time will be used in some other way if used at all and his initiative will atrophy.

No small part of a man's education consists in knowing how to find his facts, where to look for them, how to make good use of reference works. No one can pretend to remember all of the things that he will need to use. If, however, one knows just where to turn for the desired information, that is sufficient.

A laboratory manual fosters the habit of memorizing. The student learns the statements parrot-like. For a poor thinker it seems likely that such a system would give him a greater store of facts than otherwise, for it is only too true that it is impossible to make real students out of all. On the other hand, this would be at the expense of developing in many the studious, investigating, know-the-reason-why sort of attitude. And after all was not the educator partly right who said: "What we should seek to impart is not so much learning as the spirit of learning."

TAXATION.

Giving to the Cause impoverishes our business and hence impoverishes the nation. An impoverished nation can't win wars.

Earning for the Cause, by increasing production and reducing costs, strengthens our business and hence strengthens the Nation.

Nations whose business men first get this point of view, and put it into practice, will be the real winners in the present conflict.—*Babson's*.

MORE PROFITS WITHIN YOUR REACH.*

BY W. W. FIGGIS.

I might state at the outset that I approach this subject with some reluctance, preferring to enjoy the comradeship of old and new friends without taking any prominent part, but at the invitation of the Section on Commercial Interests, it gives me pleasure to offer my view-points on the subject "More Profits within Your Reach" for what they may be worth in the hope that suggestions may be given by me, or my remarks may lead to such subsequent discussion from which something of benefit may be derived by the druggists with whom it has been my happy lot to be more or less associated for over a quarter of a century.

We are all in business to make money, and to increase legitimate profits in every feasible way, and to accomplish this and fully develop the resources of any drug store, there are certain fundamental issues which must be reckoned with as foundation principles, before any successful efforts are possible to rear a substantial superstructure.

I wish at this point to lay the premise that we are composite mortals made up of a little from here, there and elsewhere, molded more or less by environment, tintured somewhat by heredity, and growing by accretion.

In our activities and words we become like those with whom we associate, also in our thinking and modes of expression we are prone to follow beaten tracks; therefore, this paper is not presented as wholly original, because I have possibly woven into it, and sometimes even unconsciously perchance, the words as well as the thoughts of some who like myself have given considerable study and application to this interesting and profitable subject.

As I proceed and possibly become obsessed with my subject, I trust you will excuse me if I discuss it in an open, frank and disinterested manner, because it is far from my intention to be dogmatic, and further still to make any statements which could be construed into an attempt to offend even the most sensitive; at the same time, what is the profit accruing if I should treat the subject merely to entertain you? It is my sincere desire that out of what I have to say, something of permanent value may accrue to some druggist, which can be incorporated into the management of his store, the better to cope with the complex situation which confronts the average retailer in the performance of his daily avocations and put more profits within his reach.

It is axiomatic that the sun's rays never burn until brought to a focus, therefore, I have divided this subject under certain classifications in order that we may concentrate our minds on one phase at a time:

FIRST: Is the commercial spirit too prominent in the drug store?

SECOND: Should the purchasing of goods be confined to firms of unquestioned reputation?

THIRD: Has the average drug clerk been given sufficient technical information about the merchandise he is endeavoring to sell?

FOURTH: Is it expedient to foster and maintain a steady advocacy of your own proprietary articles?

* Read before Section on Commercial Interests, A. Ph. A., Indianapolis meeting, 1917.

FIFTH Does it increase sales and put more profits within your reach to
AND study and apply the science of psychology which underlies the
LASTLY: act of selling?

IS THE COMMERCIAL SPIRIT TOO PROMINENT IN THE DRUG STORE?

I submit that in these days of commercialism the ethical and professional side of the drug business should not be lost sight of but fostered, because when sickness invades the home the purely commercial store does not get the business, and while it is evident that a druggist must be carried more or less with the drift of the tide toward commercialism, at the same time he should not allow himself to go to the extreme because the prescription counter, I suggest, should be the bulkhead beyond which the tide must not advance, and everything that fosters and maintains the ethical and professional dignity of the prescription department should be assiduously adopted and followed.

I claim without any fear of successful contradiction that the prescription and manufacturing department is the "barometer" of all drug stores, and I have gleaned, as the consensus opinion of the trade that the druggist who fully realizes this and is guided accordingly, enjoys the confidence of the community in which he lives, which is vastly better than endeavoring to hold trade on mere price.

Further, such confidence is not born in a day, but is the logical sequence of a fixed policy rigidly enforced and includes the little details connected with the prescription department, which are being practised by the "live wires" in all towns, who are, with few exceptions, the men who are forging ahead and steadily gaining the confidence and respect of their several constituencies and upholding the dignity of the profession. To illustrate let me refer in detail to a few of these little niceties in turning out prescriptions, such as a specially printed envelope to fit medicine droppers with the words "compliments of so and so," although charged for, like the proverbial traveler's suit of clothes.

A graduated medicine glass, because of the variation in capacities of all spoons in the home.

The old-fashioned stickers—"Put up by—Checked by—" on all prescription bottles which to the public speaks volumes for accuracy.

A distinctive cork, either black or aluminum tops, or cut in a "V" shape, because it's different to the other fellow.

A handsomely lettered prescription bottle of the best manufacture, because it looks prosperous and is a good advertisement, and in the last analysis is economical, because the cheapest bottles are not the ones which cost less per gross, but those which are nearest to specified capacities. And this is especially true in "hand-sale" because graduates are seldom used.

There are a thousand and one other little touches, which give tone and prestige, and tend toward the professional dignity of the prescription department even in the smallest towns, and which attract the attention mostly of the women folks, and I conclude that we are all agreed that when the female element start boosting your store it pays better than newspaper ads, and you soon find by increased profits that every rain-drop makes the shower, and that you are reaping profits which are within your reach.

SHOULD THE PURCHASING OF GOODS BE CONFINED TO FIRMS OF UNQUESTIONED
REPUTATION?

A volume could be written *pro* and *con* on this important question because it is fraught with disastrous results to the one who lets price only control his buying, whereas the cumulative benefits of selling dependable goods are demonstrated by increasing profits and satisfied customers.

Further: where price only controls the buying it is usually down to the danger mark while there is absolute safety and at the same time an antidote for a lot of trouble in buying and selling goods of proven quality. I wish I had the gift to so state the following fact that it would never be forgotten, namely, that the grade of goods bought and sold always reflects the standing of the store and mirrors personality from which the deductions are obvious; also that repetition makes reputation, quality fosters confidence—confidence begets enthusiasm—enthusiasm means optimism, and optimism spells success.

It is like a breath of fresh air in a fetid atmosphere to spend a while with a man who is an ultra-optimist and who considers quality of paramount importance; therefore does not risk his reputation because he buys only dependable goods from firms of unquestioned reputation, while we must admit there are many who hazard their standing in the community by selling goods of no proven merit and allow price only to control their buying, and these learn by bitter experience that it is possible to hold a penny so close to the eye that a ten dollar bill cannot be seen a foot away.

HAS THE AVERAGE DRUG CLERK BEEN GIVEN SUFFICIENT TECHNICAL INFORMATION
ABOUT THE MERCHANDISE HE IS ENDEAVORING TO SELL?

The subject of Atomizing and Nebulizing will illustrate the point I shall endeavor to make. Let us suppose a case of a prescription, the basis of which is petrolatum, and is directed by the physician to be sprayed down the throat. As a matter of fact most atomizers will spray light oils, but will not do the work when heavy oils are prescribed. Other atomizers when the throat tube is in position are nebulizers, but in this case it is necessary to have an instrument which will spray melted petrolatum into the throat. What is to be done if the proprietor who has been sold certain atomizers, and to whom the salesman has explained all the special features of his instrument, has not in turn conveyed to his clerks all the talking points and thoroughly explained same in order that they may talk and act intelligently when confronted by such a situation, instead of allowing them to get their information haphazard, knowing little or nothing about the goods, which always reflects discredit on the store, and often means the loss of a customer. Why should a clerk be allowed, as is often the case, for lack of technical information, to flounder around and guess if "such an such" an atomizer will do so and so; or will the bottle break if heated over a flame, or is it specially annealed to stand changes in temperature, so that petrolatum can be melted to a consistency for atomizing. Clerks also should be taught the difference between nebulizing, atomizing and vaporizing, and I submit that this definite posting should apply to all lines of goods needing any special knowledge in order that clerks may be in possession of the necessary information to talk intelligently, and effect sales when such items are called for, which involve the vital question of a simple prefix, *efficiency* or *deficiency*.

IS IT EXPEDIENT TO FOSTER AND MAINTAIN A STEADY ADVOCACY OF YOUR OWN
PROPRIETARY ARTICLES?

I would not give much for a man who was not a dreamer along the possibilities of what he can do putting up his own preparations. I do not refer to "pillow dreams." Fortunately we *are* capable of dreams which are not "pillow dreams," but are had by the dreamer when his spine is vertical, and every fiber of his mind, soul and heart is vibrant and vital. I claim that such visions or dreams can be transmuted into mental plans that are possible of achievement by the man who fully believes in his ability to accomplish. Impossibilities are merely the half-hearted efforts of "quitters," and every store has its sarcophagus filled with dead opportunities.

I know a man who had a dream relative to what he could do with a "cold cream" and to all the jibes and jests of his fellow druggists he stated "Yes, but I am going to make a perfect article." Look at him to-day—known all over this country and is now living on "easy street," and every man in this presence would know his name were I to mention it, and I well remember selling him his first gross of jars, comparatively only a few years ago. I could keep you here all day telling of similar instances, but this ought to suffice that dreaming pays when followed up with action, and what is accomplished is just in proportion to the vividness, energy and persistence of the ideals that they saw in such dreams; therefore, I am unqualifiedly of the opinion that it pays a druggist to put up his own preparations rather than sell his goods' name for a paltry profit by establishing the reputation and pushing the sale of goods put up by and under the name of somebody else—but under no pretext should substitution be tolerated.

DOES IT INCREASE SALES AND PUT MORE PROFITS WITHIN YOUR REACH TO STUDY
AND APPLY THE SCIENCE OF PSYCHOLOGY WHICH UNDERLIES THE ACT OF SELLING?

Answering this question let me state that most salesmen are born, not made, but that selling is often a latent potentiality which remains more or less dormant for lack of proper cultivation but which, if developed, and fully utilized puts more profits within your reach.

Although a druggist may have been awarded a Gold Medal at his College, and know Pharmacy from *Alpha* to *Omega*—it does not necessarily follow that he will make a financial success of his store, unless he has the ability of a salesman, or can develop the art until it becomes part and parcel of the warp and woof of his personality, and it is a wise man who, knowing his limitations, and having discovered his lack in this direction, surrounds himself with clerks who *are* producers.

I submit that salesmanship is a profession just as much as medicine, law, or pharmacy, requiring careful study, thought and application to develop the latent possibilities, and those who have had practical experience in selling goods acknowledge that one may talk ever so fluently, even intelligently, bringing to bear all the power of syllogistic argument, forcefully presenting all the advantages his goods possess, and yet find himself finally up against the metaphorical "stone wall," and the customer comes back with the usual stereotyped expression—"I'll call again." What's the matter? Why has a sale not been effected? I submit that the psychological phase of the subject was not reckoned with. In other words,

the "getting next" that individual customer and appealing to the *ego* which the scalpel of the surgeon cannot reach, was lost sight of. I do not for one moment advocate or infer that the seller should be too inquisitive, or brash in the endeavor to arrive at the "push and pull" of his prospective customer, but rather he must learn that the gods we worship are said to write their names on our faces, and we can, therefore, acquire by practice the faculty of reading character by a study of physiognomy, and observation of characteristic idiosyncrasies; but remember that phrenological conformations are often deceiving, because one cannot always take "a book by its cover," and the moods of customers often vary, but there are general surface indications which can be detected, and should, to some extent, determine the course to pursue, instead of using a stereotyped style of approach to all customers.

Also our subjective mental attitude has everything to do with what we expect to accomplish objectively, and we must remember that we neutralize a large portion of our effort because our mental attitude does not harmonize with our effort, and the strength and persistency of our habitual mental attitude to a large extent measures our efficiency; therefore, let us weigh correctly the difference in results between a positive and negative approach to the subject of selling.

The power of suggestion also plays a large part in your efforts to become producers; therefore, you should train yourselves to influence certain customers by suggestion, to which the average buyer is susceptible. Avoid arguments at all costs. The celebrated Marshall Field of Chicago built up a huge business on the slogan "The customer is always right." (I say, at least let him think so.) Remember that the supreme honor of salesmanship is that it deals with the most difficult of all raw materials, and it is a lesson worth learning—that you can be adaptable without being servile. Have a strong hand in a soft, pliable glove; have fineness without deception, and diplomacy without insincerity. Never forget that "satisfied customers are a permanent asset," and catering to the price-hunters never built up a bank account.

Commercial prosperity and true progress are possible only with coöperation; therefore, make confidants of the clerks in your employ, who, from observation, prove that they are working for your interest, and although they may have ideas at variance with yours, remember that seeming paradoxes of different individual opinions can be adjusted on the principle of alternating motion in machinery, by realizing the necessity of inter-relation and reciprocity in order to accomplish the common weal.

I suggest that it would be well to expunge the word "impossible" from the lexicon of our vocabulary, remembering that what some term the impossible, the other fellow comes along and does under your very nose; WHY? Because the former is beyond the point of learning any new ways and is, therefore, superior to being taught anything more along the lines of his vocation, while the latter has taken the attitude which is the basis of sane optimism and the groundwork of successful salesmanship.

In conclusion, let me add that your store should always breathe an atmosphere of "Welcome." Most customers are observing—especially the women-folk, who on entering take an optical "snapshot" of your store. Therefore, always be particular to keep your establishment clean and attractive, and by courteous

treatment and neatness, with a "thank you, come again" kind of spirit, you'll live "on the sunny side" and find more profits within your reach.

ABSTRACT OF DISCUSSION.

J. C. PEACOCK: Mr. Figgis has brought to our attention many of the possibilities within our reach. He has dealt with them from the material side and from the psychological side. I can realize, after listening to his talk, many selling opportunities that I allowed to pass.

CASWELL A. MAYO: Mr. Figgis' remarks are ethically valuable to every one and useful in the instruction of clerks regarding technical details. There is a woeful lack of knowledge about the goods which they are handling. Clerks take the goods from the shelves, but often they do not exhibit enough interest in them to know about them. Mr. Albert Plant was a salesman, in his earlier days, and he was the best salesman I ever saw. He carried with him specimens of crude drugs and when he came into the drug store he would interest every one in the store in them. "Did you see that specimen of senna?" He would say, "See how different it is from this one; see how the leaves are shaped, and note their color. That senna is worth more than the other." And so with other drugs, and he created a lively interest in many a young man that way. When a capable salesman comes into the store there is an opportunity for instruction that ought not to be missed.

J. E. JUSTICE: Efficiency is the keynote of this paper. Efficiency means getting knowledge, and a man must familiarize himself in the knowledge of salesmanship as well as compounding of drugs. You can go into some stores and walk around in them and out again without anybody seeing you. You may find a clerk talking over the telephone in such a loud voice that you can hear him clear out in the middle of the street, entirely unmindful of the waiting customer. There is often a lack of knowledge of goods that can easily be acquired, if there was only sufficient desire or interest, or the quality of observation developed.

P. HENRY UTECH: I have built up a comparatively large trade on brushes from the fact that I am somewhat informed relative to their manufacture, and use this information in explaining their qualities to the customers. Knowing goods and informing customers helps sales more than other arguments possibly can, provided, of course, that the information is judiciously given.

DR. FRANK CRANE'S COMMANDMENTS OF SALESMANSHIP.

5. Tell the Truth.—Don't lie, or exaggerate, or mislead, or conceal. Let me feel that you are sincere, and mean every word you say, and that every statement you make is of *par value*. If you represent goods that need lying about, directly or indirectly, quit. There are plenty of articles that are straight and all right. Sell them.

6. Be Dependable.—Even in small things, create the impression that whatever you promise is as much to be depended upon as your signed note. If you make an appointment at 3 P.M. Tuesday, be there at 2.45, or telegraph. If I order goods of a certain grade, let them be found to be exactly of that grade when I receive them.

7. Remember Names and Faces.—If you have not a natural gift for this, acquire it. Get a little book and set down every day the names of those you have met, with their characteristics. Practise this until you become expert. No man likes to be forgotten or to have you ask his name.

8. Don't be Egotistic.—Eliminate the pronoun I as much as possible from your vocabulary. Talk about me, not yourself. Don't tickle yourself, tickle me, I'm the one you want to win.

SIXTY-FIFTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

INDIANAPOLIS, IND., AUGUST 28 TO SEPTEMBER 1, 1917.

(Third General Session, Saturday Morning, September 1, 1917.)

The Third General Session of the Sixty-fifth Annual Meeting of the American Pharmaceutical Association was called to order by President Wulling at 10.00 A.M.

THE PRESIDENT: The first order of business is the reading of the minutes of the Second General Session.

On motion, the minutes of this session were approved (see p. 996, November issue.)

The minutes¹ of the Sixth and Seventh Sessions of the Council (1916-1917) were read and approved. (Motion made by William C. Anderson, seconded by Charles H. LaWall.)

The minutes¹ of the First and Second Sessions of the Council (1917-1918) were read.

THE PRESIDENT: You have heard the minutes of the Council and they are now before you for adoption or rejection. What is your pleasure concerning them?

W. L. SCOVILLE: I move that the minutes be adopted, with the exception of the portion relating to the Research Committee.

Motion seconded.

THE PRESIDENT: The motion is that the minutes be adopted, with the exception of the action taken in relation to the Research Committee.

(The vote was called for.)

THE PRESIDENT: The motion is carried, and the minutes are approved in all respects, with the exception of the action of the Council relating to the Research Committee.

T. J. BRADLEY: It seems to me that the whole matter will be simplified if we are allowed to change the wording of this resolution to read, instead of a Special Committee, a Standing Committee. I can see no objection to that.

THE PRESIDENT: We are anxious to create a greater interest in research, and as an evidence of that anxiety, we have created two committees; I think it would be a good plan to merge them into one, and not duplicate the work.

Reading of the resolution of Scientific Section was called for. It reads:

"That the Scientific Section recommend to the Council that a Committee on Research be added to the standing committees of the Association. That this committee consist of ten members, two to serve five years; two, four years; two, three years; two, two years; and two, one year; and that each year thereafter two members be appointed to serve five years, and that this committee be appointed by the Council and their reports be presented before the Scientific Section."

H. M. WHELFLEY: I move this report be received and referred to the Special Committee on this subject, as provided for by the Council.

H. V. ARMY: In seconding the motion, I think the matter can be adjusted in a very satisfactory way. The object of this Special Committee, first of all, is to study the whole question and financial control of this American Pharmaceutical Association Research Fund.

GEO. M. BERINGER: I want to correct a misapprehension that evidently exists in Dr. Army's mind. We distinctly stated that the financial control is

¹ See Council Business, this issue.

to be in the hands of the Finance Committee, and the Special Committee is to formulate rules and regulations. We must have definite rules of application, of how subjects are to be considered, of how awards are to be made, their value, etc.; we need definite rules and regulations in order to enable us to go ahead with the work. I think that we are working along the same line from two different angles.

W. L. SCOVILLE: A year ago the Scientific Section appointed a Committee on Research to formulate plans in accordance with what Mr. Beringer has stated. Why have two committees? This Standing Committee of the Association can formulate a plan just as well as the other.

THE PRESIDENT: In Council, the position was taken that because of the expenditure of money from the fund, that the Finance Committee shall be regarded as carrying the responsibility of awarding sums from that fund. Further, the Council Committee was created to formulate working plans to carry into execution the purposes for which the Research Fund was created.

The question before us is whether we should go ahead immediately, as suggested by the Scientific Section, with the formulation of a definite plan, or whether we should proceed along the lines suggested by the action taken by the Council. That is the question before us.

CASWELL A. MAYO: In the ultimate analysis of the question, we must determine whether it is better to appoint this Standing Committee, and a Special Committee, and allow them to formulate plans, or have the Standing Committee formulate plans; in both instances they relate distinctly to research and not to finances. That is very well defined. In either case all they will be able to do is to report back to the Council, and then perhaps to receive further instructions. I think it would simplify matters if the Council would concur in the suggestions of the Scientific Section to make this a Permanent Committee of ten members, the term of two of whom would expire annually.

E. F. KELLY: A committee has been provided for by the Council and this committee has been instructed to lay down rules and regulations for the ultimate disposition of the Research Fund. On the other hand, the object of the committee contemplated by the Scientific Section is to stimulate further research work. It seems to me those two committees have different functions, and if they could be united into one, it might be a good thing.

W. L. SCOVILLE: Why not give the permanent committee power to formulate plans, because they are now correlating the work? You cannot do this under two committees, that is, do it so well, as with a single committee.

GEO. M. BERINGER: Mr. President, if I understand the situation right, the Scientific Section is endeavoring to have a Permanent Committee to take up and investigate research problems.

W. L. SCOVILLE: Not necessarily altogether. . The committee is unhampered. You can give them other instructions.

GEO. M. BERINGER: The resolution of the Scientific Section provides for a committee of ten, the action of the Council for one of five members. We are all in sympathy with the proposition of the Scientific Section but before we can proceed with a Permanent Committee, we must have well defined financial rules governing any money which is to be spent in the way of awards, etc. We are all anxious to encourage research, and the American Pharmaceutical Association Research Fund should be covered by well defined rules. Before we can make any awards, it will be necessary for us to have definite rules mapped out as to the method of application; the plans or suggestions should be carefully studied by the American Pharmaceutical Association. It seems to me that the two committees have distinctly different duties: there should be no conflict and they can work in perfect harmony.

C. H. LAWALL: It seems to me this whole thing can be clarified if we have an understanding that the committee, as recommended by the Scientific Section,

shall be appointed by the Council, and from the ten names to be selected, five are to constitute the special committee for formulating plans as was contemplated by the Council.

FRANK R. ELDRED: It seems to me that everybody is trying to accomplish the same thing, and I believe that end would be attained, if we appoint a Permanent Committee of ten members, with instructions to formulate plans and report to the Council next year. The same instructions to govern this Permanent Committee during the present time, as laid down by the Council covering the Special Committee and to report to the Council.

CASWELL A. MAYO: I move that the recommendation of the Scientific Section be adopted.

THE PRESIDENT: There is already a motion before the house.

H. M. WHELPLEY: The Scientific Section has anticipated the report of the Council, or part of the report, by recommending a Standing Committee. No doubt this Council Committee would have made such a recommendation a year hence. The question is whether we desire at this time to anticipate the report of our Special Committee, in which event we might just as well do away with it, or adopt the recommendation of the Scientific Section, with this additional recommendation, or instruction, that they report at the next annual meeting.

THE PRESIDENT: Will those who have made motions kindly signify the same? (No response.) There are two motions before the house, are they withdrawn? (No response.) The Chair declares that there is no motion before the house at the present time. Is there any exception or any appeal taken to that ruling? None being taken, there is no motion before the house.

H. M. WHELPLEY: I move that the Association adopt the recommendation of the Scientific Section and instruct the committee to be named by the Council to report rules and regulations at the next annual meeting.

Motion seconded.

THE PRESIDENT: In substance, the committee that is now suggested by this motion is to take the place of the committee suggested by the Council. Is this clearly understood by everybody? Is there any further discussion? If not, all those in favor of the motion will signify by saying "Aye." Contrary minded, "No." The motion prevails and the Chair announces that the minutes of the Council have been approved in all respects, with the exception of the matter relating to the Research Committee, and in place of that committee this body has taken the action formulated by the motion just passed.

THE PRESIDENT: The report of the House of Delegates has been called for in precedence to other business, and we will ask that this be read.

The report of the House of Delegates was read by Secretary Jeannot Hostmann. He first presented the resolutions approved by the House of Delegates. They follow:

Resolved, That the American Pharmaceutical Association hereby empowers its delegates to the National Drug Trade Conference to vote upon any and all matters pertaining to drug legislation in state and nation when these come up for decision and action at the meetings of the National Drug Trade Conference, that such vote be in conformity with the will of this Association when such will has been expressed; and in all cases where action must be taken before this Association can consider the matter, the vote be in conformity with the best judgment of the delegates.

William C. Anderson moved the adoption of the resolution; the same was regularly seconded, and on vote carried.

WHEREAS, The public welfare at all times, especially during the war, demands that the services of both the medical and pharmaceutical professions of all the branches of the drug trade be fully utilized, and,

WHEREAS, A medical sector has been created in the Advisory Commission of the Council of National Defense, and no representation has been provided for pharmacy and no adequate representation for the drug trade, therefore be it

Resolved, That it is the sense of the American Pharmaceutical Association, in annual convention assembled, that proper representation in the war administration for pharmacy and the drug trade be provided, and, further be it

Resolved, That a copy of this resolution be forwarded to the Secretary of War and the Secretary of the Navy.

This resolution was adopted.

JEANNOT HOSTMANN: I have recommendations from the address of Chairman J. H. Beal of the House of Delegates. They were referred to a committee consisting of C. H. LaWall, O. F. Claus and S. L. Hilton and they desire to present them to the Association for action.

They were read seriatim and are as follows:

1. Transfer the reception of fraternal delegates from other pharmaceutical or allied organizations, or from departments of the United States Government, from the General Sessions to the sessions of the House of Delegates.

2. Abolish the Committee on Resolutions provided for in Articles I and IX, Chapter X, of the Association By-Laws.

3. Instruct the Committee on U. S. P. and N. F. to report in the first place to the House of Delegates, except upon financial matters.

4. Make it the duty of the Committee on Patents and Trade Marks to report to the House of Delegates instead of to the General Sessions.

5. Transfer the reports of the Commission on Proprietary Medicines, except such portions as relate to financial questions and election of members, from the Council to the House of Delegates.

W. L. Scoville moved the adoption of the first recommendation, which was seconded and adopted by vote of the Association.

The second recommendation was, on motion of W. B. Day and a second, referred by vote to the Committee on Constitution and By-Laws.

Motion to adopt the third recommendation was made by Jeannot Hostmann, and received a second. Abstract of discussion follows:

GEO. M. BERINGER: The Committee on the U. S. Pharmacopoeia has in the past presented lengthy reports of scientific interest. It may be a good idea to discuss subjects of general interest and act thereon in the House of Delegates, but when it comes to the discussion of scientific subjects, which are part and parcel of the very foundations of this Association, I do not concur in transferring these matters to the House of Delegates.

JEANNOT HOSTMANN: It was suggested in the House of Delegates that the transactions of this body be printed, and reprints sent to the delegates who would present them to their Association and be embodied in the minutes of these organizations; in that way wide publicity would be given these subjects and benefit the Association.

FRANK R. ELDRED: It seems to me that reference of the report on the U. S. Pharmacopoeia to the House of Delegates would complicate matters.

J. W. ENGLAND: Chapter I, Article 2, of the By-laws of the House of Delegates provides that delegates need not be members of the Association, so Association matter would be referred to a body not altogether composed of members of the Association.

THE PRESIDENT: The Chair made the recommendation in the President's address, that a committee be appointed to learn of the procedures and powers of Houses of Delegates in other organizations, and report next year. We want more light on the work of other delegate bodies. Possibly the speakers have not thought of this.

L. F. KEBLER: The House of Delegates is in the process of evolution; the Section which has heretofore considered this report has become established. I move as a substitute that the recommendation be laid on the table.

(The motion was seconded and carried.)

Jeannot Hostmann moved the adoption of the fourth recommendation and the motion was seconded. The following is an abstract of the discussion thereon:

GEO. M. BERINGER: President Wulling expressed the right view in his address, that a committee should be appointed to study the duties assigned to Houses of Delegates in other organizations. I doubt the wisdom of assigning functions like those contemplated to a body not wholly constituted by members of the Association.

F. E. STEWART: I agree with Mr. Beringer.

(A motion was made to table the recommendation and duly seconded.)

H. M. WHELPLEY: Just a word to go on the record. By reference to the minutes of the Denver meeting of the American Pharmaceutical Association, you will find in the discussion which resulted in the establishment of the House of Delegates, it was thoroughly understood that the American Pharmaceutical Association is not a delegate body, and the House of Delegates was established with that understanding. I would also like to have it go on record that the House of Delegates this year did not have a member who was not also a member of the American Pharmaceutical Association, so we are not referring anything to a body outside of the American Pharmaceutical Association.

THE PRESIDENT: You have heard the motion to table which has been duly seconded. All those in favor of the motion will signify by saying "Aye." Contrary minded, "No." The motion prevails.

H. M. Whelpley moved the adoption of the fifth recommendation, seconded by Jeannot Hostmann.

THE PRESIDENT: You have heard the motion. Are there any remarks?

J. W. ENGLAND: As I understand it, the Commission on Proprietary Medicines is a Standing Committee of the Council, and I would like to move as a substitute that this recommendation be laid on the table.

Motion seconded.

THE PRESIDENT: The motion to table is before us. All those in favor of the same will please say "Aye." Contrary, "No." The Chair is in doubt. All those voting in the affirmative will please rise. Those voting in the negative will please rise. The motion is carried, and it is so ordered.

GEO. M. BERINGER: I move that this report which has been adopted be referred to the Special Committee to be appointed under the advice of the President's address.

WM. C. ANDERSON: I move that this proposition be taken from the table and referred to that committee to be considered with the rest of the reports.

GEO. M. BERINGER: My motion was very clear. It was that the report of the Committee of the House of Delegates as presented should be referred to the Special Committee appointed under the President's address to study the organization of other Houses of Delegates, irrespective of what action was taken at this time.

THE PRESIDENT: The Chair will rule that we did not act upon the report as a whole, only parts, and a disposition of the report, as a whole in such a manner as will not be in conflict with a part of it, is in order. Is there any appeal from that ruling? (No response.) You have heard the motion. Is there any discussion? All those in favor of the motion will please say "Aye." Contrary, "No." The motion is carried.

J. M. FRANCIS: I would like to know how you can refer any matter to a committee which does not exist.

THE PRESIDENT: The Association has issued instructions for the appointment of the committee. It would merely be a matter of stating the motion somewhat differently. We have the power to do that. The Chair so rules.

SECRETARY DAY (reading): "The report of the Committee as a whole is to be referred to a Special Committee to study other Houses of Delegates, to be appointed by the incoming President, in accordance with the recommendations of President Wulling's address."

THE PRESIDENT: The next order of business is unfinished business.

SECRETARY DAY: The first report is the report of the Committee on the William Procter Monument Fund, and that, by the way, is accompanied by a letter from the Chairman, our oldest living Ex-President, Mr. J. F. Hancock. His letter is as follows:

REPORT OF THE COMMITTEE ON THE WILLIAM PROCTER, JR. MONUMENT
FUND.

It was generally expected that this convention would have been appointed to be held in Washington, D. C. and that the Procter Monument would be ready for unveiling, but the unexpected conditions due to the World War have interfered with our plans. Congress for the past several years has refused to entertain Bills for minor matters in its efforts to hold itself close to governmental affairs of unusual importance.

Since our last meeting three hundred dollars (\$300) has been given by one member of our Committee and this with the interest on the fund now in the hands of the Treasurer of the American Pharmaceutical Association will greatly assist in completing the balance that was needed because of the more elaborate plans for the monument as presented and approved last year.

The increased cost of material and labor at this time would also have made any contract indefinite and inadvisable, but when peace and prosperity are restored, everything will be ready to secure a monument that will be a pleasure to the members of this Society and an honor to American pharmacy.

JOHN F. HANCOCK, *Chairman.*

C. H. LAWALL: I move the report be accepted.

Motion seconded and carried.

SECRETARY DAY: The Procter Monument Fund now amounts to more than \$8000.

THE PRESIDENT: The Chair takes pleasure in stating that Mr. Hancock has been one of the workers of the Association and has done very much for the cause of pharmacy, especially for historic pharmacy.

H. M. WHELPLEY: Mr. President, I move that the Secretary be instructed to convey to Ex-President Hancock the hearty greetings of the American Pharmaceutical Association.

(The motion carried unanimously.)

Secretary Day read the annual report of the Committee on International Pharmaceutical Nomenclature.

ANNUAL REPORT OF COMMITTEE ON INTERNATIONAL PHARMACEUTICAL
NOMENCLATURE.

TO THE MEMBERS OF THE A. PH. A., INDIANAPOLIS CONVENTION:

Your committee reports progress. Owing to the world's war, it is inadvisable, in fact, impossible to even try to do any work on

INTERNATIONAL PHARMACEUTICAL NOMENCLATURE.

We have repeatedly proven the necessity, the great necessity for uniformity in Pharmaceutical Nomenclature. However, in order to bring this about, especially internationally, it is absolutely necessary to have peace between the different nations.

Therefore let us hope for a speedy end of the war, so that besides other important reasons, the Committee can begin actual work. To this end the Committee should be continued.

Respectfully submitted,

OTTO RAUBENHEIMER, *Chairman.*

GEO. M. BERINGER: I move the adoption of the report.

Motion seconded and carried.

Secretary Day read the report of the General Membership Committee. On motion of Dr. H. M. Whelpley the report was adopted. (To be printed.)

Secretary Day read the report of the Associate Committee of the American Joint Committee on Horticultural Nomenclature.

REPORT OF ASSOCIATE COMMITTEE OF THE AMERICAN JOINT COMMITTEE
ON HORTICULTURAL NOMENCLATURE.

The Committee with which we have been associated was formed for the purpose of standardizing the names, both scientific and common, of our cultivated plants. The condition of these names has been so chaotic that the same name has been applied to a number of different plants, in many cases, and in a vast number of others, the same plant has been listed in different publications under different names. The result has been that the names have not been intelligible. Not only has the situation caused great inconvenience and dissatisfaction, but continual disputes and not a little litigation. The various horticultural and floricultural associations interested therefore united in an effort to agree on some standard list of names that could be generally used. The American Pharmaceutical Association was asked to coöperate in this work. It was not assumed, either by the Joint Committee that extended the invitation, or by those who recommended to the A. Ph. A. that the invitation be accepted, that our Association would be greatly benefitted in any direct manner. Our position has been that of one contributing a public service in a branch of applied science closely related to our own work, a service that is in line with the general principles which underlie the work of our organization.

The Joint Committee has labored by holding meetings at which a preliminary list, prepared by a sub-committee, has been considered, name by name, and by written communications, submitted for study and criticism. Later, the proof sheets were similarly treated, and finally a printed list was issued.

In the selection of names, the primary basis has been an attempt to secure uniformity for practical purposes, rather than to adhere to any particular code of nomenclature. At the same time, scientific accuracy has been sought so far as agreement could be reached. In considering the many cases in which such accuracy has not been secured, and the many inconsistencies that the list exhibits, it must be remembered that for every such error and inconsistency that now exists, a considerable number of others have been eliminated from common usage. Every member of the Committee has conceded much to the majority. The list is therefore distinctively a compromise product. It is, moreover, only tentative. It is planned to revise it at regular periods, as is done with the Pharmacopœia. During each period, improvements will be proposed and publicly discussed, so that at the end of each period a part of the inaccuracies may be corrected. In this way, not only will a gradual approach to perfection be made, but the process itself will become an important factor in public educational work. For the present, the attempt has been to approach the nomenclature of *Bailey's Encyclopædia of Horticulture*.

Only the woody plants have received attention in this primary list, as the work on all classes of plants was too vast for an immediate undertaking.

The expense of the meetings of the Committee in different places, of the secretary's labors, and of printing has been considerable, and has been met by contributions from the several societies represented. As this feature was not contemplated at the time that our Association took action, no provision was made by us for such a contribution. Your Committee therefore thought it best to secure contributions, to total at least \$100, from individual members who were appreciative of the work and willing to assist it. At the time of writing this report, one hundred and sixty dollars have been received by the chairman and forwarded to Mr. Harlan P. Kelsey, of Salem, Mass., the secretary and treasurer of the Joint Committee. As your Chairman is about to leave the country for a time, he is arranging for the proper disposition of any additional contributions that may arrive.

Respectfully submitted,

Associate Committee	{ LYMAN F. KEBLER, OLIVER A. FARWELL, H. H. RUSBY, <i>Chairman</i> .
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(The adoption of the Report was regularly moved and seconded.)

SECRETARY DAY: The President just asked me in regard to the statement of the \$100. I understand from the wording of the report that this money has been contributed and therefore no action is necessary on that part of the report. This is a Special Committee appointed by the American Pharmaceutical Association.

CASWELL A. MAYO: I move that the report of the Committee be received and the sum of \$25 be contributed toward the expenses.

L. F. KEBLER: I second the motion.

THE PRESIDENT: You have heard the motion. All those in favor of the same will signify by saying "Aye." Contrary, "No." It is carried.

SECRETARY DAY: We have also the report of the Committee on Closer Affiliation of Pharmacy and Medicine.

It was regularly moved, seconded and carried that the report be received and referred for publication. (To be printed.)

SECRETARY DAY: We have several resolutions referred to the Association by the Sections.

The resolutions presented by the Commercial Section are as follows:

(1) That colleges of pharmacy lay greater emphasis on commercial training.

(2) That the Stephens Price Maintenance Bill be endorsed.

The first resolution was adopted without discussion; the second was adopted after some debate as to whether the bill should be endorsed, or the principle of the measure. The vote resulted favorably to endorsement of the Bill, complying with the resolution as presented.

Resolutions from the Section on Education and Legislation were read, relating to Compulsory Health Insurance, and approved (see p. 890, October issue).

GEO. M. BERINGER: I want to call attention to the fact that in the approved minutes of the Council there was a proposition that the By-Laws, relating to the National Formulary Committee, should be amended. I move that it be referred to the Committee on By-Laws, to be embodied in the By-Laws.

Motion seconded and carried.

THE PRESIDENT: New business is next in order. The Secretary will proceed.

SECRETARY DAY: I understand from the minutes of the Council that there is a vacancy in the Council. Prof. Arny has been re-elected Reporter on the Progress of Pharmacy; he is also a member of the Council whose term does not expire until 1918. He is therefore doubly a member of the Council, an elected member whose term still extends over one year, and an *ex-officio* member as Reporter on the Progress of Pharmacy.

H. V. Arny resigned as an elected member of the Council.

JEANNOT HOSTMANN: It gives me great pleasure to present the name of Dr. Jacob Diner of New York to fill the vacancy caused by the resignation of Prof. H. V. Arny.

Jacob Diner was elected member of the Council to fill the unexpired term of H. V. Arny.

Caswell A. Mayo presented resolutions of thanks to all who had participated and contributed to the entertainment and comfort of the members and the success of the meeting.

The resolutions were adopted by a rising vote.

THE PRESIDENT: The next order of business will be the installation of officers. I will pause just a moment before doing that to express my personal appreciation of the very fine, excellent, adequate and competent help and coöperation that all the members of the Association have given me during my administration. I have received much help, very constructive help, and I believe you all agree with me when I say that this meeting has been one of much accomplishment in constructive and upward pharmacy. The tone of the meeting I regard as having been very pleasant and harmonious. There have been no differences of opinion concerning the real things affecting American pharmacy, and what differences some might have thought existed, were mere evidences of anxiety on the part of those holding them, in an endeavor to contribute to the upward tendency in pharmacy.

This Association has the great privilege of elevating pharmacy. It is one of its purposes, and this Association is carrying out the purposes in a very efficient and capable way, and it is due to the fact that all the members are vitally interested in the welfare of the Association.

There is, however, room for greater enthusiasm and activity on the part of the members at large, and I believe that all of us who are at the meeting can enlist our neighbors in the fine work that the Association is doing.

I want to be on record as expressing my appreciation and extending my thanks to all those who are in any way deserving of them.

The President appointed Messrs. Hugo Kantrowitz and Charles MacGregor to present the officers of the ensuing year. President Wulling introduced them to the Association with words of commendation.

Vice-Presidents A. R. L. Dohme and Leonard Seltzer were not present. The names of the officers follow:

President.—Charles Holzhauer (deceased November 19, 1917), Newark, N. J.

Honorary President.—W. L. Dewoody, Pine Bluff, Ark.

First Vice-President.—Alfred R. L. Dohme (now Acting-President), Baltimore, Md.

Second Vice-President.—Leonard A. Seltzer, Detroit, Mich.

Third Vice-President.—Theodore J. Bradley, Boston, Mass.

General Secretary.—William B. Day, Chicago, Ill.

Treasurer.—Henry M. Whelpley, St. Louis, Mo.

Reporter on the Progress of Pharmacy.—H. V. Arny, New York, N. Y.

Editor of the JOURNAL.—E. G. Eberle, Philadelphia, Pa.

OFFICERS OF THE COUNCIL FOR 1916-1917.

Chairman.—Lewis C. Hopp, Cleveland, Ohio.

Secretary.—Joseph W. England, Philadelphia, Pa.

<i>Members of the Council</i>	{	Frederick J. Wulling, Minneapolis, Minn.
(Installed at Indianapolis		George M. Beringer, Camden, N. J.
meeting.)		Jacob Diner, New York, N. Y.
		John G. Godding, Boston, Mass.
		S. L. Hilton, Washington, D. C.

The officers installed expressed their appreciation of the honor conferred and pledged their best efforts in the discharge of the duties assigned to them. The remarks of President Charles Holzhauer and Honorary President W. L. Dewoody are recorded.

PRESIDENT CHARLES HOLZHAUER: Mr. President and Fellow-members, I appreciate most highly this honor that you have conferred upon me, as the highest within the reach of American pharmacists. I intend to be your servant during the year, and I hope that you will start me right in carrying out those measures that will be for the uplift and good of this Association, and I promise I will do my best at all times for its advancement and welfare.

HONORARY PRESIDENT W. L. DEWOODY: I want to express my hearty appreciation of the honor which the Association has conferred upon me, and I desire the members to understand that this comes from my very heart. I appreciate especially the privilege of being personally connected with a body of men whose names mean the elevation of the profession I have chosen. My heart has always been with you, socially and professionally. It is still there, and you have my sincere thanks for the honor you have conferred upon me. I could ask no greater honor, and I also feel that it comes from the heart of this Association as a testimonial of my constant sincerity. I will try to keep the title an honorable one.

THE PRESIDENT: It appears that we have completed the business of the Sixty-fifth Annual Convention of the American Pharmaceutical Association, and that it has now become history. We all know that something has been accomplished. I want to express my personal thanks for the great honor that the Association has bestowed upon me in my election to the highest office.

(After some further remarks concerning the work of the Association, the retiring President tendered the gavel to President Holzhauer, and the latter assumed the Chair as presiding officer.)

Caswell A. Mayo moved a vote of thanks to the retiring officers, and in expressing his appreciation of President Wulling's services, employed the words of praise used by the latter in commending the officers of the Association.

The motion of Mr. Mayo was adopted by a rising vote.

PRESIDENT HOLZHAUER: Is there anything else to come before this session? If not, I will entertain a motion to adjourn.

(On motion, the Sixty-Fifth annual convention was declared duly adjourned.)

COMMITTEE REPORTS

REPORT OF THE DELEGATES TO THE NATIONAL DRUG TRADE CONFERENCE.*

TO THE PRESIDENT, OFFICERS AND MEMBERS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION:

Your delegates to the National Drug Trade Conference beg to submit the following:

During the year two meetings of the Conference have been held at the New Willard Hotel, Washington, D. C.; the first meeting was held on January 16, 1917, this being the annual meeting; the second was held May 1 and 2, 1917, and was called by a referendum of the Executive Committee. At both meetings all of the constituent organizations were represented.

At the January meeting, upon the recommendation of the Executive Committee, which met the previous day, the following resolutions were adopted:

RESOLVED, that we petition Congress not to amend the Harrison Act in any other way except as it relates to Section 8 and that it be amended as follows:

Section 8. It shall be unlawful for any person not registered under the provisions of this act and who has not paid the tax as provided by this act, to offer for sale or have in his possession for sale or under his control for sale, any of the aforesaid drugs, and possession or control by any person not registered under the provisions of this act, and who has not paid the special tax provided by this act, shall be *prima facie* evidence of a violation of this provision, whether such person is a person enumerated in Section 1 of this act or not, provided, etc., as in Section 8 of the Harrison Act.

That the Conference approve of the recommendation made by the Commissioner of Internal Revenue in 1915, that some provision be made for the treatment of indigent persons unfortunately addicted to the use of narcotic habit-forming drugs where the operations of the law brings about conditions necessitating such treatment, but believes this to be a function of the State and not of the Federal Government; and that care should be exercised that such institutions do not unduly exploit the law to their own pecuniary advantage.

That we recommend to the legislators of the various states that commissions be appointed to investigate the subject of Compulsory Health Insurance from every angle; to give all interested an opportunity to be heard and finally to report their conclusions to the next session of their respective legislatures.

That the Conference unanimously endorse the Kern-Doremus Bill as the only adequate measure to give relief to art, industry and science respecting the mailing of legitimate articles, which though poisonous or containing poisons are not outwardly or of their own force dangerous to life, health and property and may be mailed with entire safety.

* Presented and approved in Second General Session of American Pharmaceutical Association, Indianapolis meeting, 1917.

That the National Drug Trade Conference respectfully protests against the establishment of the arbitrary standards for foods and drugs beyond those already made; and especially against attempts to establish standards for articles originally devised and introduced by producers and manufacturers and for which such producers and manufacturers have already established standards based on their experience.

That the Conference approve of the passage by Congress of H. R. 18986, House Calendar No. 217, provided the same be amended by inserting after the word "liquors" in line nine, page one, the words "or the manufacturer of or dealer in medicinal or toilet preparations, flavoring extracts, or chemicals." After an interview with Mr. Randall, the author of the Bill, by Mr. Crounse representing the Conference, Mr. Randall agreed to accept the proposed amendment and thanked the Conference for its assistance.

The Conference recommended the adoption of the Metric System as soon as possible.

That a committee be appointed to inquire into and report as to whether the word "Aspirin" will become public property after expiration of the Hoffman patent on Acetyl-Salicylic Acid; the committee immediately went to work, employed counsel and their report has already been published.

Mr. F. E. Holliday read the report of the Board of Control of the N. W. D. A. on the report of the Committee on Prevention of Adulteration, and the Conference agreed to give its support to the N. W. D. A. efforts to secure publicity and uniformity of standards by which the Department of Agriculture determines what drugs shall be admitted to the country under the Food and Drugs Act, and what shall not, and to secure appeal to the courts. That the Executive Committee be instructed to secure a regulation effecting the keeping of proper records of Harrison Act Drugs exported.

That the matter of the Conference joining the United States Chamber of Commerce be referred to the Executive Committee with power to act. The Conference has since affiliated with U. S. Chamber of Commerce, Mr. C. M. Woodruff being delegate and Dr. J. H. Beal, Counselor.

At the meeting of the Conference on May 1st and 2nd, the two most important topics under discussion and consideration were the representation of the drug trade and pharmacy in the Government service and anti-narcotic legislation.

Many distinguished persons interested in narcotic legislation were present, among whom might be mentioned Dr. Ernest F. Bishop, and Dr. Davin of New York; Mr. A. C. Webber, Assistant District Attorney of the City of Boston and Dr. Lythgoe connected with the Massachusetts Board of Health; representatives of the Internal Revenue Department and the Public Health Service. Mr. C. P. Heller of St. Paul represented the Governor of Minnesota and the Minnesota State Pharmaceutical Association; Dr. L. L. Walton the Governor of Pennsylvania; and Prof. H. P. Hynson the Governor of Maryland. Many others were present and took part in the discussion.

Dr. J. H. Beal read a paper showing by actual report from the trade, that the Harrison Act had performed its functions to far greater extent than it was given credit for in many circles and that the sales and use of narcotics had very largely decreased.

The question of recognition of pharmacists by the Government was fully discussed and a special committee appointed to take up the matter; the members of the committee are E. C. Brokmeyer of Washington, Dr. A. R. L. Dohme of Baltimore and Dr. S. L. Hilton of Washington, but as a similar or rather a committee for a similar purpose was appointed by President Wullong and will have a report to present to you we will not discuss the subject further here.

A stenographer was present at the joint meeting on May 2nd, and a resolution was adopted authorizing the publication of the papers and revised discussions for distribution to the drug trade publications and to the members of the convention.

Your Committee recommend a continued affiliation with the National Drug Trade Conference.

All of which is respectfully submitted,

JOHN C. WALLACE,
J. H. BEAL,
S. L. HILTON,
Delegates.

AMERICAN PHARMACEUTICAL ASSOCIATION FINANCES.

(ADDENDA TO THE TREASURER'S REPORT, BY H. M. WHELPLEY, AUGUST 15, 1917.)*

THE FISCAL YEAR 1916.

My ninth annual report as treasurer covered the fiscal year 1916, and was printed in the Journal of the A. Ph. A., Vol. VI., pp. 741-751. That report is purely statistical. It is a record of the \$49,323.07 income which started with a balance of only \$87.25 on January 1, and closed with a balance of \$4,995.30 at the end of the year. The 208 voucher checks show what disposition was made of the money. It also gives a detailed account of the five permanent and three trust funds. For a history of these eight funds, see A. Ph. A. Year Book No. 4. The year closed with total A. Ph. A. assets of \$74,023.80.

Overhead Expenses for 1916.—The following items were not all paid during the year 1916, but the amounts represent expenditures for the fiscal year 1916 and may be appropriately designated as overhead expense:

Salaries.....	\$ 6150.00
Year Book, Vol. III.....	2901.62
Printing, Postage and Stationery.....	1100.65
Clerical Expense, Secretary's Office.....	424.00
Stenographers for 1916 Annual Meeting.....	350.00
Miscellaneous Expenses (Bank Exchange, Freight, Telegraphing, Rental of Typewriter for Secretary, etc.).....	271.11
Committee on Membership.....	251.11
Traveling Expenses for 1916 Annual Meeting.....	176.00
Five Sections of A. Ph. A.....	109.47
National Drug Trade Conference.....	99.18
Premium on Treasurer's Bond.....	37.50
Committee on Unofficial Standards.....	30.92
National Syllabus Committee.....	25.00
Pharmaceutical Journals for Reporter on Progress of Pharmacy.....	19.96
A. Ph. A. Recipe Book.....	10.50
Total.....	\$11957.02

A. Ph. A. Revenue for 1916.—The following are items of regular income on which the Association depends for money to meet overhead expenses:

Annual dues for the Year 1916 (2291 at \$5.00; 13 at \$4.00; Miscellaneous, \$8.75)...	\$11515.75
Interest on Life Membership Fund (not used but added to the principal).....	723.38
Interest on Bonds in Current Account.....	400.00
Interest on Daily Balance in Current Account.....	148.75
Miscellaneous (Sale of Year Book and Proceedings, \$70.85; Exchange paid with Dues, \$0.89; Postage from Delinquents, \$0.50).....	72.24
	<hr/>
	\$12860.12

I have not taken into consideration the income from the sale of certificates of membership, gold badges and bars, buttons, A. Ph. A. insignia type cuts, etc. These are not sources of revenue, as the articles are sold at about cost.

Gain for 1916.—The overhead expense for 1916 was \$11,957.02, and the revenue \$12,860.12, leaving a gain of \$903.10 more revenue than overhead expenses for the fiscal year.

The Assets Have Increased.—On January 1, 1916, the Permanent Funds amounted to \$35,404.24 and at the close of the year \$36,696.37. Thus, this form of assets increased \$1,292.13, or over \$100.00 per month. The sum of \$13,903.67 was accumulated for the National Formulary Revision and Research Fund, making a total growth during 1916 of \$15,195.80 in funds belonging to the A. Ph. A.

* Presented at the Indianapolis meeting, A. Ph. A., 1917.

THE FISCAL YEAR 1917.

The further presentation I shall make is a summary of the transactions in my office from January 1 to August 15, 1917. I shall also discuss the finances of the A. Ph. A. in general and indicate our status to-day.

The A. Ph. A. Should Employ an Auditor.—The auditing of the Treasurer's account was a minor matter during the early years of the Association. With the increase in membership, number of funds and the publication of the National Formulary, Year Book and Journal, the task has become complicated and laborious. The work in the office of the Treasurer has doubled during the past decade. The handling of funds by the Editor, the Committee on Publication and the General Secretary and the distribution of property are reasons for employing expert accountants to check up the financial and commercial affairs of the Association. It is also difficult to secure the services of competent members to give their time for four or five days at such drudgery as auditing. The A. Ph. A. is under obligation to those who have served during recent years. They have not been compensated nor even paid actual expenses. I have secured estimates from reliable accountants and shall recommend to the council that for at least the coming year, the records of the Treasurer be audited by a public accountant. Such a firm may make valuable suggestions about methods of keeping our records and preparing reports. Below is the report of the committee which should be presented at this time:

REPORT OF THE A. PH. A. AUDITING COMMITTEE FOR 1916.

To the Officers and Members of the American Pharmaceutical Association:

We have examined the books of Henry M. Whelpley and William B. Day, respectively Treasurer and General Secretary of the American Pharmaceutical Association, for the fiscal year 1916 and compared the records with the vouchers and found them correct. We have found a proper accounting for all of the funds of the Association. The cash balance to January 1, 1917, corresponds with the books of the International Bank of St. Louis and the Massachusetts State and the St. Louis City Registered Bonds and the International Bank of St. Louis certificate of deposit in the hands of Treasurer Henry M. Whelpley.

Auditing Committee,

FRED W. SULTAN, *Acting Chairman*,
CHAS. GIETNER.

ST. LOUIS, June 5th, 1917.

The A. Ph. A. Securities in Safe Deposit.—The Association does not have securities that could be realized on by any person holding them, in case they were lost or stolen. Even the Treasurer is unable to transfer registered bonds. It is appropriate, however, that the contents of the A. Ph. A. safe deposit box be checked up each year. The following report is made under oath:

ST. LOUIS, MO., May 28, 1917.

To the Officers and Members of the American Pharmaceutical Association:

We, the undersigned, have, in accordance with Rule 10 of General Rules of Finance, examined the Securities contained in the Association Box at the Title Guaranty Trust Co., St. Louis, and found the following:

Ebert Legacy Fund Bond.

1 St. Louis City Registered 4 percent. Bond (No. 766).....	\$ 2000.00
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A. Ph. A. General Fund Bonds.

5 St. Louis City Reg. 4 percent Bonds (Nos. 705, 706, 707, 708, 709).....	5000.00
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1 St. Louis City Reg. 4 percent Bond (No. 717).....	5000.00
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Total.....	\$10000.00
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A. Ph. A. Centennial Fund Bond.

1 Massachusetts Registered 3 percent Bond (No. 1705).....	\$ 1000.00
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A. Ph. A. Life Membership Fund Bonds.

1 Massachusetts State Registered 3 percent Bond (No. 1701).....	10000.00
3 Mass. State Reg. 3 percent Bonds (Nos. 1702, 1703, 1704).....	3000.00
Total.....	\$13000.00

A. Ph. A. Procter Monument Fund.

Certificate of Deposit No. 63,520, dated December 31, 1916, International Bank of St. Louis (Due June 30, 1917) (Principal).....	5092.54
	H. M. WHELPLEY. FRED W. SULTAN.

State of Missouri }
City of St. Louis. } ss.

On this 5th day of June, 1917, appeared before me Henry M. Whelpley and Fred W. Sultan, who being sworn, state: that the above statement to which they have subscribed is true to the best of their knowledge and belief.

Sworn to and subscribed before me this 5th day of June, 1917.

My term expires November 19th, 1917.

SIDNEY SCHIELE,
Notary Public,
City of St. Louis, Mo.

[SEAL]

Bank Exchange an Important Item.—The Treasurer constantly urges members to remit dues in a form that does not require the payment of bank exchange. Most personal checks call for a minimum fee of five cents. If all of the members paid dues in such medium, the bank exchange would amount to one percent of the dues. On larger checks, the rate is not so high but our bank exchange since January 1, 1917, has cost the Association \$50.30. All of this could be avoided if members would pay their dues and advertisers their bills by money order or St. Louis bank exchange. Some members insist on the Treasurer's drawing on them but refuse to pay the exchange. A few pay in currency and one member sent five dollars in silver by registered mail. Very rarely does a member add the bank exchange to a check for dues.

The National Formulary.—Since the beginning of the National Formulary in 1888, the Association has had four general secretaries, two treasurers and several committees on publication. No uniform method of keeping the accounts have been continuously followed from the first expenditures. Sometimes, the detailed reports were made by one officer and the next year by another officer or by the Committee on Publication, or not at all. From the earlier records, it is difficult to determine all of the items of expense that really were incurred for the National Formulary. It is impossible to make a positive division of the income from each revision and the same condition applies to the items charged to the National Formulary. The treasurer's books, during my administration, show as much detail as could be gathered from the bills passing through my office. The N. F. has become a work of importance and the handling of the financial accounts of the book equal to all of the Treasurer's work when the A. Ph. A. was young. In order to have the records in convenient form for reference, I have made the following synopsis: The figures are approximate. The net balances are excessive in some cases but based on the only available records.

It is but reasonable to suppose that the sale of the N. F. IV, during the first twelve months, has been much greater than will be the demand for any year following. We must not count on increments approximating the fund of \$13,903.67 set aside, the initial year. Nor should we count as net profit the money now in the National Formulary Revision and Research Fund. In fact, the name of the fund is more indicative of possible purpose of the fund than of its origin. The Treasurer has followed the letter of Rule 14 of the General Rules of Finance and kept "a separate and accurate account of all receipts and increments for the National Formulary." The fund is the excess "balance" of receipt over the amount of disbursement. It is not a net profit or what is commonly called "velvet." If we desire to place in this fund only actual profit, we must deduct from the receipts a fair percent of the \$13,053.88 overhead expenses of the Association for the fiscal year 1916. After this deduction is made from the fund, I suggest investing the

NATIONAL FORMULARY, 1886-1917.

Year.	Receipts.	Expenditures.	Deficit.	Balance.
1886		\$ 33.25	\$ 33.25	
1887		510.59	510.59	
1888	\$4178.02	3357.97		\$820.05
1889	1224.98	366.09		858.89
1890	990.43	334.06		656.37
1891	836.44	292.00		544.44
1892	548.07	264.38		283.69
1893	289.54	143.35		146.19
1894	324.28	139.65		184.63
1895	752.12	972.63	220.51	
1896	936.11	187.99		748.12
1897	598.74	91.26		507.48
1898	503.78	211.12		292.66
1899	431.89	482.66	50.77	
1900	539.74	315.50		224.24
1901	378.32	129.47		248.85
1902	262.34	154.65		207.69
1903	247.78	72.39		175.39
1904	214.74	69.08		145.66
1905	734.24	1233.08	498.84	
1906	10728.75	6363.11		4365.64
1907	6016.88	1880.06		4136.82
1908	5326.88	2892.41		2434.47
1909	4154.91	1069.64		3085.27
1910	3151.53	1023.76		2127.77
1911	1632.46	718.63		913.83
1912	3137.78	863.86		2273.92
1913	3192.82	1095.20		2097.62
1914	2732.03	732.90		1999.13
1915	1524.98	884.99		639.99
1916	29700.33	12300.01		17400.32
1917	7378.50	1899.47		5479.03
Total,	\$92769.41	\$41085.21	\$1313.96	\$52998.16
Forward, Total balance.....				\$52998.16
Total deficit.....				1313.96
Net balance.....				\$51684.20
				Year.
				Net Balance.
The Preliminary Draft of a National Formulary,				1886.....
First Edition of The National Formulary,				1888..... \$ 2729.91
Second Edition of The National Formulary,				1896..... 2000.48
Third Edition of The National Formulary,				1906..... 27574.62
Fourth Edition of The National Formulary,				1916..... 19379.19
Total.....				\$51684.20
August, 15, 1917.				

balance in suitable securities and keeping the principal intact as one of our permanent funds. The interest will be available "for paying the expenses of the continuous revision of the National Formulary and the research work contributory thereto and for such other purposes as the Council may elect" (see Rule 14). If we leave the entire fund at the mercy of special appropriations and do not delete from Rule 14 the words "and for such other purposes as the Council may elect," I fear our new fund will be used up as rapidly as is the money our government raises by special war

taxes. We have a range of possibilities from fitting out and maintaining during the war a hospital ambulance to setting at work one or more experts charged with the duty of solving new pharmaceutical problems or disposing of some of those old ones still with us from the days of Wm. Procter, Jr. No doubt, each one of you can suggest worthy uses to be made of our infant fund. I plead guilty to being the father of several and each one, in my judgment, is urgent and commendatory. Let us secure the principal and then decide on what we shall do with the interest. The association, at the 1915 meeting, took the first action providing for this fund. It was then decided to make the net balance each year a part of the Endowment Fund (See Journal, A. Ph. A., November, 1915, page 1376, Rule 14).

Local Branches not Well Coördinated.—The local branches are doing much good work for the A. Ph. A. but are not as well coördinated with the office of Treasurer as they should be in order to secure the best results. Local branches retain as members and even elect to office persons who have been suspended from the A. Ph. A. for the non-payment of dues. Only recently, a delinquent member who had remained silent regarding five bills, responded to the sixth by saying: "Drop my name from the list. I pay my dues in the local branch and that is all I want." Few of the branches get in touch with the new members as soon as they are elected. Not long ago, a letter from a new member read: "I do not hear anything from the local branch. Am I eligible for membership in it?" A few of the local branches are rendering the treasurer yeoman service by rounding up delinquents who ignore my monthly appeal for "some kind of a response."

Firms Cannot belong to the A. Ph. A.—Year after year, we receive dues from firms that desire to belong as a firm and pay one or more annual dues each year. When such a remittance is received, it is held until we learn the name or names of the members for whom the payment is made. Sometimes, firms desire to pay for employees who are not on our roll of members. A firm recently said, "We have been paying \$20.00 each year but cannot now designate four individuals as members, as we do not know who will attend the meeting."

Annual Dues are Payable January 1.—Those who do not pay the annual stipend on or before January 1 become delinquent. The bills are sent out about the middle of December and a large portion of the membership respond at once. This year, 1098 paid bill number one. A few members pay two years at a time and thus keep one year ahead. Occasionally, a member objects to being classed as a delinquent, but I point out that all controversy may be ended by complying with the by-laws and paying when the debt is due.

How I Collect the Dues.—I am often asked how I manage to collect such a large proportion of the dues and how I keep the delinquent list so small. I have no fixed rule or form of procedure. I think the showing is due to the fine class of members of the A. Ph. A. rather than to an exceptional treasurer. I do ask myself each year what kind of letters would make me pay dues promptly. I then try them out on our delinquent members and the money comes in before the year is half over. I have not, however, found out how to separate the members who will pay from those who must eventually be suspended. But I everlastingly keep at it in a good-natured way until only the ones to be dropped are left. As an example of this process of attrition, I will quote from a delinquent. He did not open Letter No. 5 but endorsed the envelope, as follows:

"I enclose my check for ten dollars to cover dues due and dues past due. Thank you for your kindness in reminding me again and again. Within notice may not be pleasant reading, so I shall not open it."

Residence Unknown Members.—An expensive and troublesome list is constituted by residence unknown members. It is ever-changing in composition and fluctuates in size but is constantly in existence. This list complicates the work of the editor of the Journal, the Secretary, in delivering the Year Book, and the Treasurer in collecting dues. We have a large itinerant membership which seems to think the officers should keep track of each one by mental telepathy. Much postage and considerable work would be saved if members would promptly inform an officer of the Association when they change their addresses. We are indebted to the secretaries of the boards of pharmacy and of state pharmaceutical associations for cheerful assistance in supplying missing addresses. The office of the surgeon general of the Public Health Service and the corresponding office of the Army and of the Navy have given valuable aid in correcting our records. We fear that the exigencies of the war will extend the list of residence unknown beyond the normal limit.

The A. Ph. A. Membership, August 15, 1917, was 2640, which is an increase of fifty-five since August 15, 1916. We gained fifty members between July 29, 1915 and August 15, 1916, or one hundred and five in twenty-four and one-half months. The present membership consists of 2500 active and 140 non-paying members. This is an increase of sixty-four dues-paying and a decrease of nine-non-paying members the past year. The honorary members have decreased from eight to seven, the life, old style, from thirteen to eleven, and the regular life from 128 to 122. We have taken from our roll, the past year, 258, which is 130 less than during the previous year. Our loss consists of 127 suspended, 102 resigned and 39 deaths. Compared with last year, the suspensions are sixty-two less, the resignations fifty-nine less and the deaths one less. During the past few weeks, we had quite a number of resignations on account of the war. Some were drafted and others plead war poverty. The only delinquents we have are for the year 1917. They number 382. One year ago we had 305 on the delinquent list. This excess of seventy-seven is partially accounted for by our increase of sixty-four paying members. Also, by the fact that the resignations and suspensions are 121 less than the previous year. I have reported to the Council the names of the delinquents and will show the list to members who may be able to save some who owe the Association.

The A. Ph. A. Assets and Trust Funds.—The Association funds continue to grow independently of overhead expenses and revenue. The Permanent Funds, the Current Fund and the National Formulary Fund constitute the A. Ph. A. liquid assets. The funds held in trust may be expended by the A. Ph. A. but are not of quite the same status as the other funds (see Year Book, Vol. 4).

Permanent Funds.

Life Membership Fund.....	\$22374.55	
Centennial Fund.....	3015.18	
Ebert Prize Fund.....	1109.70	
Endowment Fund.....	6694.55	
Ebert Legacy Fund.....	4229.80	
	<hr/>	
Total Permanent Funds.....		\$37423.78

Current Funds.

Cash on Hand.....	\$ 6806.81	
Bonds which belong to Current Funds.....	10000.00	
	<hr/>	
Total Current Funds.....		16806.81

Special Fund.

1916 National Formulary IV.....	13903.67	
1917 National Formulary IV.....	5482.52	
	<hr/>	
Total Special Fund.....		19386.19

Funds Held in Trust.

College Prize Fund.....	39.18	
Procter Monument Fund.....	8447.06	
Rice Memorial Fund.....	177.21	
	<hr/>	
Total Funds Held in Trust.....		8663.45
		<hr/>
Total Funds Held by the A. Ph. A.....		\$82280.23

The Current Funds have increased since my annual report (JOURNAL A. PH. A., Vol. VI, page 741) \$1811.47. The National Formulary Fund is \$5482.52 larger. The Trust Funds are \$234.99 greater. The total funds held by the A. Ph. A., August 15, were \$82280.23, or \$8256.43 more than on January 1, 1917.

A. Ph. A. Receipts from January 1 to August 15, 1917.

Cash on hand, January 1, 1917.....			\$ 4995.30
National Formulary IV.....			13903.67
Annual dues and Journal for 1916.....	\$ 222.00		
Annual dues and Journal for 1917.....	8050.00		
Annual dues and Journal for 1918.....	335.00		
Annual dues and Journal for 1917 (Jan. 1 to Apr. 1).....	1.25		
Annual dues and Journal for 1917 (Jan. 1 to July 1).....	2.50	\$8608.75	
Dues only of the A. Ph. A. for 1917.....		40.00	
1 Paper certificate of membership at \$3.00.....		3.00	
National Formulary III.....		6.75	
Journal Advertising.....		3504.46	
Journal subscriptions.....		177.00	
Proceedings and Year Book.....		29.80	
Miscellaneous (Reprints and Type Adv. Cuts).....		9.85	
Interest on St. Louis Bonds in Current Funds.....	400.00		
Int. on Deposit in International Bank of St. Louis.....	406.55	806.55	
Bank Exchange paid by members.....		0.61	
Reprints from Journal.....		94.24	
Badges and Bars.....		8.00	
A. Ph. A. Insignia type cuts.....		0.25	
Sale of 10 Gold Membership Buttons at \$1.00.....	10.00		
Sale of 19 Plated Membership Buttons at 25 cents.....	4.75		
Sale of 5 Gold Membership Pins at \$1.00.....	5.00		
Sale of 6 Plated Membership Pins at 25 cents.....	1.50	21.25	13350.51
National Formulary IV.....			7371.75
Cash Received and Placed in Funds:			
Centennial Fund (Int. on Mass. State Bonds).....	30.00		
Life Membership Fund (Int. on Mass. State Bonds).....	390.00		
Ebert Legacy Fund (Int. on St. Louis Bonds).....	40.00		460.00
Receipts from Jan. 1 to Aug. 15, 1917.....			\$40081.23

The \$20722.26 added to the cash is \$5197.16 more than was realized the corresponding period of 1916.

Summary of A. Ph. A. Disbursements, January 1 to August 15, 1917.

National Formulary Revision and Research Fund.....		\$13903.67
Salaries.....	\$3658.34	
Journal.....	4197.81	
Printing, Postage and Stationery.....	453.57	
Clerical Expense for Secretary.....	272.00	
National Formulary III.....	3.24	
Miscellaneous Expenses (Freight, Postage, Rental of Typewriter for Secretary, etc.).....	40.50	
Badges and Bars.....	7.60	
Committee on Membership.....	121.09	
National Drug Trade Conference.....	243.76	
Section on Scientific Papers.....	5.45	
Committee on Unofficial Standards.....	25.78	
A. Ph. A. Recipe Book.....	14.64	
Committee on Patents and Trade Marks.....	10.34	
Year Book (Vol. III \$2448.61, Vol. IV \$12.37).....	2460.98	
Womens Sections.....	23.90	11539.00
National Formulary IV.....		1889.23

Cash Received and Placed in the Funds:

Centennial Fund.....	30.00	
Life Membership Fund.....	390.00	
Ebert Legacy Fund.....	40.00	460.00

Total disbursements, Aug. 15, 1917..... \$27791.90

The cash expense of \$27791.90 is \$17035.03 more than during the corresponding months of 1916.

Prospective Income, August 15 to December 31, 1917.—Now, that the National Formulary Income is a separate fund, the A. Ph. A. has but two sources of income, the dues and the Journal. The following estimate does not take into consideration small items, such as interest on cash in bank, the sale of certificates, buttons, etc. Nor is the interest on the Life Membership Fund listed here. We have not used this interest for many years past. The following is the prospective income for the period August 15 to December 31, 1917:

1917 dues.....	\$1010.00	
1918 dues.....	1785.00	
1919 dues.....	10.00	
		\$2805.00
Journal advertisements.....	\$1752.23	
Journal subscription.....	93.50	
		1845.73
Total.....		\$4650.73

With the cash now on hand, \$6806.81, we are likely to have \$11457.54 available for use during the rest of this fiscal year.

Prospective Expenditures, August 15 to December 31, 1917.—The following estimate is based on corresponding expenses of last year and thus far in 1917:

Salaries.....	\$2491.66
Printing, Postage and Stationery.....	600.00
Clerical Expense, Secretary's Office.....	208.00
Miscellaneous Expenses.....	100.00
Stenographers.....	350.00
Traveling Expenses.....	200.00
Committee on Membership.....	200.00
Committee on Unofficial Standards.....	49.00
Year Book.....	25.00
Premium on Treasurer's Bond.....	37.50
National Drug Trade Conference.....	56.24
Five Sections of the A. Ph. A.....	100.00
Badges and Bars.....	21.15
Committee on Recipe Book.....	35.00
National Syllabus Committee.....	25.00
Journal.....	2053.00
Buttons and Pins.....	75.00
Committee on Patents and Trade Marks.....	19.66
	\$6646.21

If the above estimates are correct, we will close the year 1917 with \$4,811.33 (\$11,457.54—\$6,646.21) on hand. We started the year with \$4,995.30. These figures indicate a prospective decrease of \$183.97 in the current cash.



A. Ph. A. Insignia Type Cuts.—These little cuts should become as popular with members as are the official buttons. They are particularly appropriate for use on prescription blanks and in advertisements. The price is only fifteen cents each.

The Treasurer is Bonded for \$15,000.00, which is considerably more than even an ingeniously dishonest officer could absorb from the A. Ph. A. assets. This protection is wise and ample. A bond does not, however, guard against possible losses from unfortunate investments or bank deposits. A financial institution may be solid one year and very weak the next. The Treasurer has placed the funds in banks selected by the A. Ph. A. The Association should at least annually investigate the standing of the depositories.

The Treasurer is only a Custodian of Funds.—The Treasurer of the A. Ph. A. receives the funds and securities of the organization and deposits them wherever the Association directs. The class of accounts and form of securities are dictated by the organization. The Treasurer does not make out the entire voucher checks. These, in blank form, are held by the General Secretary, who fills in the necessary records in order to start a bill on its way for payment. All bills must be O. K.'d by some one knowing them to be correct and must then pass the approval of the General Secretary and the chairman of the Committee on Finance before they even reach the Treasurer. Bills are frequently delayed in payment because they are not sent direct to the office of the General Secretary. The Treasurer can hold up the payment of a bill when the voucher check reaches him, but he cannot initiate the process of payment. The entrance door to the Treasurer's office is always wide open and he is ever ready to receive and receipt for money from any source. The exit door is very carefully guarded. It opens only under conditions dictated by the constitution and by-laws of the A. Ph. A., the by-laws of the Council, the general rules of the Association, the general rules of finance, the general rules of publication and, last, but not least, the direction of the General Secretary and the chairman of the Committee on Finance. The Treasurer's hands are tied. Perhaps he does not resist the fetters nor should the members look to the Treasurer as a financial autocrat. He is in office to guard and husband the resources of the A. Ph. A. and follow the directions of the Association, as expressed by the Council.

REPORT OF THE COMMITTEE ON NATIONAL FORMULARY.*

The past year has been one of quiet. The committee labored eight years, and has rested on the ninth. The next year will bring renewed activity in the formulating of a final report, to include a plan for the next revision. This is a matter on which our best thought may be well spent.

Two of our most valuable members have died within the year, Chairman C. Lewis Diehl, and Dr. M. I. Wilbert. The work of both of these men on the National Formulary has been of the highest value. They can never be fully replaced. Both of them had a great capacity for detail, a mind to work, and a conscientious sense of responsibility for their work. The Association has received inestimable benefits from them. We who survive have the rewards which could not come to them.

Since the first printing of the N. F. IV, fifteen months ago, a number of errors have been reported which have been corrected in the later printings. A list of these is appended, which might be printed on slips to be distributed to owners of earlier printings, as Errata, on request.

WILBUR L. SCOVILLE, *Vice Chairman.*

ERRATA.¹

CHANGES IN FORMULAE.

- Page 106 Under Liquor Alumini Acetatis, last line of directions change "make the finished mixed liquids" to "make the filtered mixed liquids."
 Page 119 Under Liquor Ferri Peptonati et Mangani, change "To make one thousand grammes—1000 Gm." to "To make one thousand milliliters—1000 mls."

* Presented at Indianapolis meeting, A. Ph. A., 1917.

¹ NOTE.—Those who purchased a National Formulary IV, of the earlier issues, in which these errors occurred and the changes were not made, can obtain a sheet of corrections and changes, as per the report, if they will send a stamped, addressed envelope to the JOURNAL OF THE A. PH. A., 253 Bourse Building, Philadelphia, Pa., with such request.

- Page 128 Second line, change "*three hundred milliliters*" to "*one hundred milliliters*."
- Page 154 After Infused Oil of Hyoscyamus, add "prepared according to the general formula on page 151."
- Page 204 Under Syrupus Eriodictyi Aromaticus, in first line of directions, change "fluid-extracts" to "fluidextract."
- Page 209 Tenth line, change "*four hundred and fifty milliliters*" to "*four hundred milliliters*."
- Page 231 Change "To make *one thousand milliliters*" to "To make about *one thousand milliliters*."
- Page 246 Under Unguentum Resorcinolis Compositum change "Anhydrous Wool Fat" to "Wool Fat."
- Page 360 The entire paragraph on Determination of Alcohol in Official Preparations has been changed to conform to the later printings of the U. S. P. IX.
Under Test for Methyl Alcohol, first line change "diluted water" to "distilled water."

CHANGES IN TITLES.

- Page 5 Change Collodium Salicylici Compositum to Collodium Salicylicum Compositum.
- Page 18 Drop the comma after Ferri in Elixir Cinchonae Alkaloidorum, Ferri et Calcii Lactophosphatis.
- Page 77 Change Fluidextractum Heloniatis to Fluidextractum Heloniadis.
- Page 89 Change Fluidextractum Verbasci Foliae to Fluidextractum Verbasci Foliorum.
- Page 159 Change Petroxolinum Cadini to Petroxolinum Cadinum.
- Page 188 Change Sal Potassii Bromidi Effervescens Compositus to Sal Potassii Bromidi Effervescens Compositum.
- Page 194 Change Spiritus Oleorum Volatilum to Spiritus Oleorum Volatilium.
- Page 261 Change Althaea Folia to Althæae Folia.
- Page 274 Change Cacao Praeparata to Cacao Praeparatum.
- Page 290 Change the official English synonym from Crocus to Saffron, and drop the latter as a secondary synonym.
- Page 301 Change Galangal to Galanga.

CHANGES IN SYNONYMS.

- Page 2 Under Aqua Phenolata, add *Phenoli Solutio P. I.*
- Page 5 Under Collodium Iodi add Collodium Iodatum, N. F. III.
Under Collodium Iodoformi, add Collodium Iodoformatum, N. F. III.
Under Collodium Salicylici Compositum, add Collodium Salicylatum Compositum, N. F. III.
- Page 29 Under Elixir Hypophosphitum et Ferri, add Elixir Hypophosphitum cum Ferro, N. F. III.
- Page 39 Under Elixir Terpini Hydratis et Codeinae, add Elixir Terpini Hydratis cum Codeina, N. F. III.
- Page 45 Under Emulsum Olei Morrhuæ cum Malto, add Emulsum Olei Morrhuæ cum Extracto Malti, N. F. III.
- Page 52 Under Extractum Ergotæ Aquosum, add Extractum Secalis Cornuti P. I.
- Page 63 Under Fluidextractum Apii Fructus, add Fluidextractum Apii Graveolentis, N. F. III.
Under Fluidextractum Araliae, add Fluidextractum Araliae Racemosae, N. F. III.
- Page 64 Under Fluidextractum Arnicae, add Fluidextractum Arnicae Florum, N. F. III.
- Page 69 Under Fluidextractum Colchici Cormi, add Fluidextractum Colchici Radicis, N. F. III.
- Page 72 Under Fluidextractum Corni, add Fluidextractum Cornus, N. F. III.
- Page 76 Under Fluidextractum Gossypii Corticis, add Fluidextractum Gossypii Radicis, N. F. III.

- Page 78 Under Fluidextractum Iridis Versicoloris, add Fluidextractum Iridis, N. F. III.
- Page 103 Under Linimentum Saponato-Camphoratum drop the synonym Opodeldoc.
- Page 113 Under Liquor Cocci, add Liquor Coccineus, N. F. III.
- Page 156 Under Pasta Betanaphtholis, add Pasta Naphtholis Lassar, N. F. III.
- Page 157 Under Pasta Resorcinolis Mitis, add Pasta Resorcini Mitis, Lassar, N. F. III.
- Page 158 Under Pasta Zinci, add Pasta Zinci Lassar, N. F. III.
Under Pasta Zinci Mollis, add Pasta Zinci Mollis, Unna, N. F. III.
Under Pasta Zinci Sulphurata, add Pasta Zinci Sulphurata, Unna, N. F. III.
- Page 181 Under Pulvis Cretae et Opii Aromaticus, add Pulvis Cretae Aromaticus cum Opio, N. F. III.
- Page 192 Under Spiritus Aetheris Compositus, change Hoffman's Anodyne to Hoffmann's Anodyne.
- Page 193 Under Spiritus Myrciae Compositus, add Spiritus Myrciae, N. F. III.
- Page 195 Under Stili Acidi Salicylici Dilubiles, add Stilus Acidi Salicylici Dilubilis, N. F. III.
- Page 228 Under Tinctura Iodi Fortior, add Tinctura Iodi Churchill, N. F. III.
- Page 246 Under Unguentum Resorcinolis Compositum, add Unguentum Resorcini Compositum, N. F. III.
- Page 250 Under Vinum Colchici Cormi, add Vinum Colchici Radicis, N. F. III.
- Page 252 Under Vinum Fraxini, add Vinum Fraxini Americanae, N. F. III.

CHANGES OF ABBREVIATIONS.

- Page 5 Change Collod. Sal. Co. to Collod. Salicyl. Co.
- Page 15 Change Elix. Cascar. Sagr. to Elix. Casc. Sagr.
Change Elix. Cascar. Sagr. Co. to Elix. Casc. Sagr. Co.
- Page 78 Change Fldext. Iri. Ver. to Fldext. Irid Vers.
- Page 91 Change Fldglycer. Cascar. Sagr. to Fldglycer. Casc. Sagr.
Change Fldglycer. Cascar. Sagr. Arom. to Fldglycer. Casc. Sagr. Arom.
- Page 106 Change Liq. Alumin. Acet. to Liq. Alum. Acet.
Change Liq. Alumin. Acet.-Tart. to Liq. Alum. Acet.-Tart.
- Page 107 Change Liq. Alumin. Subacet. to Liq. Alum. Subacet.
- Page 120 Change Liq. Ferr. Sal. to Liq. Ferr. Salicyl.
- Page 127 Change Liq. Phosph. Co. to Liq. Phos. Co.
- Page 148 Change Mull. Ac. Sal. to Mull. Ac. Salicyl.
Change Mull. Creosot. Sal. to Mull. Creosot. Salicyl.
- Page 154 Change Ol. Hyoscy. Co. to Ol. Hyosc. Co.
- Page 192 Change Sp. Aether. Co. to Sp. Aeth. Co.
- Page 195 Stil. Acid. Sal. Dilub. to Stil. Acid. Salicyl. Dilub.
- Page 208 Syr. Glycyrrhiz. to Syr. Glycyrrh.
- Page 212 Syr. Phosphat. Co. to Syr. Phos. Co.
Change Syr. Phosphat. c. Quin. et. Strych. to Syr. Phos. c. Quin. et. Strych.
- Page 315 Change Magnes. Chlorid. to Mag. Chlorid.

MISCELLANEOUS CHANGES.

- Page 63 After the Assay under Fluidextractum Apocyni add "*page 606, Digitalis group.*"
- Page 228 Reverse the order of Tinctura Iodi Fortior and Tinctura Iodi Decolorata.
- Page 326 Change the dose of Poppy Capsules from "Apothecaries, 1 drachm" to "Apothecaries, 15 grains."

INDEX.

Make changes in Latin Titles as above and add (p. 378) Fraxinus, Wine of, 252 Glycyrrhiza, Syrup of, 208.

COUNCIL BUSINESS

PROCEEDINGS OF THE COUNCIL, SIXTH AND SEVENTH SESSIONS, 1916-1917, AND FIRST AND SECOND SESSIONS, 1917-1918.

SIXTH SESSION, 1916-17.

The Sixth Session of the Council of the American Pharmaceutical Association for 1916-17 was held at the Hotel Claypool, Indianapolis, Ind., on Thursday evening, August 30, 1917, at 7.00 P.M., Chairman Hopp presiding.

Present: Messrs. Army, Eberle, Eldred, Dye, Fuller, Hilton, Hostmann, Hopp, Koch, Mayo, Sayre, Whelpley, White and Wulling.

The minutes of the fifth session of the Council were read and approved.

H. M. Whelpley nominated W. L. Dewoody, of Pine Bluff, Ark., for Honorary President for the ensuing year; the nomination was seconded by H. V. Army. There being no further nominations a vote was called for and a motion made that the Acting Secretary cast the unanimous ballot for Mr. Dewoody. Carried and the vote was so recorded.

H. M. Whelpley moved that the Editor of the Journal be instructed to have 200 reprints made of the supplementary report of the Treasurer; the motion was seconded by C. A. Mayo and carried.

L. E. Sayre, Chairman of the Committee on Drug Reform, presented the following recommendations from the Section on Education and Legislation:

1. The Chairman of the Committee on Drug Reform suggests that it would be quite proper at this time to consider its discontinuance or otherwise, in some way, reform the Reform Committee in order that it may be made more efficient and useful to the Association as a whole. If the Council will consider the matter of re-organization as suggested, your Chairman is of the opinion that it would be in the line of constructive work.

Chairman Sayre suggested that the Committee on Drug Reform be discontinued.

After some discussion H. V. Army moved that the Committee be discontinued, seconded by S. L. Hilton, and it was so voted.

Honorary President W. L. Dewoody was introduced and briefly addressed the Council, expressing his appreciation of the honor conferred, he stated that this was the 30th anniversary of his membership in the Association.

As unfinished business, the matter of appointing a committee to confer with the authorities of the Smithsonian Institute relative to the loan of historical matter of the Association for exhibition in the Museum at Washington, was called for.

H. C. Fuller moved, and C. A. Mayo seconded, that a committee with power to act in the matter be appointed by the Chairman of the Council. After discussion a vote was called for and motion carried.

Jeannot Hostmann, as Secretary of the House of Delegates, presented resolutions which, in part, make it necessary to amend the By-Laws of the Association, as follows:

1. Transfer the reception of fraternal delegates from other pharmaceutical or allied organizations, or from departments of the United States Government, from the General Sessions to the sessions of the House of Delegates.

This leaves the first General Session of the meeting solely to the welcoming speeches by our hosts, the President's address, such special addresses as may be arranged for, to announcements which should be made at this time, and to the highly important duty of selecting and organizing the annual Nominating Committee.

2. Abolish the Committee on Resolutions provided for in Articles I and IX, Chapter X of the Association By-Laws.

3. Instruct the Committee on U. S. P. and N. F. to report in the first place to the House of Delegates, except upon financial matters.

The national standards affect every portion of the whole country, and a body of representatives of state associations should have the opportunity of passing judgment upon them. If

there are matters of special scientific interest in the reports, the House will naturally refer such portions to the Section on Practical Pharmacy and Dispensing or to the Scientific Section for their consideration.

4. Make it the duty of the Committee on Patents and Trade Marks to report to the House of Delegates instead of to the General Sessions.

The questions dealt with in these reports are largely trade questions, or questions of law as related to trade, and a nationally representative body is the proper place for their presentation and discussion.

5. Transfer the reports of the Commission on Proprietary Medicines, except such portions as relate to financial questions and election of members, from the Council to the House of Delegates.

H. M. Whelpley moved and H. V. Army seconded that the resolutions to amend be accepted and be acted upon at the session of the Council to be held Friday, August 31, at 4.00 P.M.

The resolutions were referred to a committee consisting of J. H. Beal, Jeannot Hostmann and J. L. Turner for report at the next session of Council.

Adjourned to convene on August 31, 1917, at 4.00 P.M.

E. G. EBERLE,
Acting Secretary pro tem.

SEVENTH SESSION, 1916-1917.

The Seventh Session of the Council of the American Pharmaceutical Association was held at the Hotel Claypool, Indianapolis, on Friday, August 31, 1917, at 4.00 P.M., Chairman Hopp presiding.

Present: Messrs. Army, Beal, Beringer, Bibbins, Claus, Day, Dye, Eberle, Eldred, Engelhardt, Fuller, Hilton, Hostmann, Hopp, Koch, Mason, Sayre, Snow, Stewart, Turner, Whelpley, Wulling and Mayo.

The minutes of the previous session of the Council, held August 30, at 7.00 P.M., were read and approved.

Two applications for membership were received and the applicants elected, as follows:

No. 314. Emory James Yeager, 1214 Heath St., Lafayette, Ind., rec. by Frank M. Best and C. B. Jordan.

No. 315. Charles A. Hauser, 811 Main St., Covington, Ky., rec. by E. L. Pieck and E. H. Thiesing.

J. H. Beal announced that the term of John C. Wallace as member of the Commission on Proprietary Medicines had expired and also that it was necessary to elect a Chairman for the Commission.

Moved by F. E. Stewart, seconded by J. L. Turner, that J. H. Beal be elected Chairman of the Commission. Carried.

S. L. Hilton moved, seconded by George M. Beringer, that John C. Wallace be elected to succeed himself as a member of the Commission on Proprietary Medicines. Carried.

Communications were presented by F. E. Stewart for the Historical Section on the establishment of a collection of *Materia Medica*, chronologically arranged, to show what substances have been used as medicines by various nations of the world, as follows:

PRESENTED BY F. E. STEWART.

You will probably remember that in 1881 I proposed that an investigation of the *Materia Medica* of the world be undertaken by the Smithsonian Institute, aided by the medical departments of the U. S. Army, Navy and the U.S. Marine Hospital Department, and that the American Medical Association ten years later memorialized Congress on the subject.

This plan was very generally endorsed by medical and pharmaceutical bodies, but was never carried out because it was impossible to secure an appropriation from Congress, although Prof. Spencer F. Baird, the Honorable Secretary of the Smithsonian, said that it was one of the most important plans presented to that institution during his occupancy of the position as its director.

An attempt is now being made by the Smithsonian to revive this plan in modified form and to establish a collection of *Materia Medica* chronologically arranged to show what substances

have been used as medicine by the various nations of the world up to the present time. The matter has been placed in the hands of Mr. Curton, one of the directors of the Smithsonian Institute.

The subject has been presented to the Council of the A. Ph. A. and we have been offered a place for storing exhibits or collection belonging to the Association which will undoubtedly be used in carrying out the above mentioned plan.

About a year ago a few of us assembled at Glenolden, Pa., to consider the question of raising medicinal plants, and the subject of *Materia Medica* collection at the Smithsonian was taken up. Mr. L. Wayne Army, a cousin of Prof. Army of the A. Ph. A., visited Washington to ascertain if something could be done to secure coöperation between the A. Ph. A. and that institution whereby the question of cultivating medicinal plants might be considered in connection with the botanical part of the work of the Smithsonian in establishing a collection of botanic *materia medica* of historic value. Mr. Army expected to be present at this meeting at Indianapolis to report, also to take part in a discussion of the subject of medicinal plant cultivation. As his letter is of interest from an historical point of view, I am presenting it to you for consideration. Possibly you may care to refer it to the Council for the use of the committee to be appointed to deal with the proposition made to us by the Smithsonian Institution.

Dr. Stewart presented the following letter, also:

AUGUST 28, 1917.

DR. F. E. STEWART, Philadelphia, Pa.

DEAR MR. STEWART:

As I wrote you in my last letter, I found it absolutely impossible for me to get to Indianapolis. I had hoped at the time of writing you to be able to give you the opinions of Dr. Kilmer, Dr. Kern, Mr. Lilly and Dr. Kraemer, so that you would have some basis to work on at the convention. I did not have time, however, to hear from these gentlemen so that I could have gotten their reports to you. I am very much afraid, therefore, that the meeting will not be all that it might have been had closer coöperation been possible between the members of the committee. I am waiting, with a great deal of interest, to hear what occurred. During my recent visit in Washington, I looked up your Smithsonian Institute man, but I was unable to find him and presume that he was not in town. However, Dr. W. W. Stockberger seems perfectly familiar with the plans of the Smithsonian Institute regarding medicinal flora and he is endeavoring to find out for me what they really want. I think I mentioned to you that Dr. Stockberger told me that the Government had under consideration financial help for such institutions as were doing experimental or investigational work along medicinal plant line. This sounds encouraging for us, doesn't it?

With very best wishes, I am

Sincerely yours,

L. WAYNE ARMY.

The subject was discussed and by vote referred to the committee of the Council to look after the Historical Pharmacy Exhibit to be provided in the Museum of the Smithsonian Institute at Washington.

The Chairman appointed as such Committee Dr. W. W. Stockberger, H. C. Fuller and S. L. Hilton.

Treasurer Whelpley moved that the Auditing Committee appoint a financial accountant to audit the Treasurer's Report; also that the Finance Committee be named as the auditing committee. The motion was seconded by J. A. Koch and carried.

Treasurer Whelpley reported on the Ebert jewelry in his hands.

F. E. Stewart moved, seconded by J. H. Beal, that the Finance Committee and Treasurer be instructed to dispose of the jewelry to the best financial interests of the Association.

Chairman George M. Beringer of the Committee on Financial Control of the National Formulary, presented a report of that Committee signed by Messrs. J. A. Koch, H. V. Army and Wilbur L. Scoville, as follows:

REPORT OF THE COMMITTEE ON FINANCIAL CONTROL OF NATIONAL FORMULARY.

To the Council of the American Pharmaceutical Association:

At the last annual meeting, the Council appointed this committee to consider the subject of a proper conservation of such funds as might accumulate from the sales of the National Formulary and to formulate a plan for the financing of the future revisions of the N. F.

During the year the committee has, by correspondence and in conference, given thoughtful consideration to these problems associated with the ownership of the National Formulary by the A. Ph. A. and unanimously reports the following conclusions:

FIRST—That all receipts from the National Formulary shall be continued to be kept in a separate account.

SECOND—That there shall be charged to this account all of the expenses of the N. F. Revision Committee, including the cost of all meetings and conferences of the Committee, or Sub-Committees thereof, experimental work in the testing of the formulas and preparation of standards, stationery, books, binders, secretarial duties, correspondence, etc., and the expenses of the members on account of such services.

THIRD—That there shall be charged to this account all of the expenses of the revision, publication and distribution of the National Formulary.

FOURTH—That there shall be set aside fifty (50%) percent of the net profits of each revision of the National Formulary toward the establishment of a Pharmaceutical Research Fund—to be known as the American Pharmaceutical Research Fund and to be held in trust by the American Pharmaceutical Association through its Council or controlling body.

Until such time as the American Pharmaceutical Research Fund has accumulated from this source or from bequests, contributions, etc., a fund of not less than one hundred thousand (\$100,000.00) dollars, the trustees may annually expend not more than fifty (50%) percent of the net income of the said fund. When this Research Fund shall exceed \$100,000.00 then the trustees may expend annually a sum not exceeding the income derived from the investments held by the said Research Fund.

From the funds thus available, the trustees may grant such honorariums or awards to encourage investigation and research upon any subject relating in any way to pharmacy or to the collateral sciences, as may in their judgment be deemed proper. In the granting of such honorariums or awards, preference shall be given to such applications or subjects as are recommended by the committees of Revision of the United States Pharmacopoeia or the National Formulary.

The Trustees shall appoint a special committee to safeguard The American Pharmaceutical Research Fund and to promote the objects of its foundation. This Committee shall be authorized to establish and enforce rules and regulations for the control and management of this trust.

The adoption of this report will necessitate a modification of Rule 14 and the proposed alteration of that rule is attached.

Respectfully submitted,

GEORGE M. BERINGER,
J. A. KOCH,
H. V. ARNY,
WILBUR L. SCOVILLE.

The report was discussed at length and resulting finally in a motion by J. H. Beal, which was seconded by Harry B. Mason, that the recommendations of the Committee be considered *seriatim*, and it was so voted.

The first recommendation of the Committee was adopted; the second was disposed of after thorough discussion by a vote on the motion of J. A. Koch and seconded by Jeannot Hostmann, that the proposal of this paragraph be added in substance to the By-Laws which govern the National Formulary. The third recommendation was adopted and by the elimination of the second proposal of the report is now numbered *two*; the fourth proposition which has to do with the establishment of a Research Fund became the subject of much discussion and finally voted that instead of the Research Fund "to be held in trust" that it become a "Permanent Fund" of the Association.

After vote, George M. Beringer called for the ayes and nays; the roll call resulted in a vote of fourteen (14) for the amendment and three (3) against.

Mr. Beringer then moved that the name which had been provided for the fund in the report "American Pharmaceutical Research Fund" be changed to American Pharmaceutical Association Research Fund; seconded by J. H. Beal, and carried.

These changes were made in the paragraphs following and adopted with the exception of last paragraph, which, by consent of Chairman Beringer and other signers of the report, was eliminated—the recommendations of the report as amended then read:

FIRST—That all receipts from the National Formulary shall be continued to be kept in a separate account.

SECOND—That there shall be charged to this account all of the expenses of the revision, publication and distribution of the National Formulary.

THIRD—That there shall be set aside fifty (50%) percent of the net profits of each revision of the National Formulary toward the establishment of a Pharmaceutical Research Fund—to be known as the American Pharmaceutical Association Research Fund and to be held in trust by the American Pharmaceutical Association through its Council or controlling body.

Until such time as the American Pharmaceutical Association Research Fund has accumulated from this source or from bequests, contributions, etc., a fund of not less than one hundred thousand (\$100,000.00) dollars, the trustees may annually expend not more than fifty (50%) percent of the net income of the said fund. When this Research Fund shall exceed \$100,000.00 then the trustees may expend annually a sum not exceeding the income derived from the investments held by the said Research Fund.

From the funds thus available, the trustees may grant such honorariums or awards to encourage investigation and research upon any subject relating in any way to pharmacy or to the collateral sciences, as may in their judgment be deemed proper. In the granting of such honorariums or awards, preference shall be given to such applications or subjects as are recommended by the Committee of Revision of the United States Pharmacopoeia or the National Formulary.

Moved, that the money now in the National Formulary Research Fund be transferred according to the provisions of Rule of Finance No. 14, namely, 50 percent to the general funds of the Association and 50 percent to the American Pharmaceutical Association Research Fund.

On motion of Jeannot Hostmann, seconded by H. M. Whelpley, this motion was adopted as amended.

J. A. Koch moved and George M. Beringer seconded, that the following changes be made in Rule 14. These were approved and are:

Rule 14. *Disposal of Receipts from the National Formulary.* "The Treasurer shall keep a separate and accurate account of all receipts of and disbursements for the National Formulary. Any balance of receipts in excess of disbursements, remaining at the end of any fiscal year, after making due allowance for any outstanding indebtedness on behalf of the National Formulary, shall be credited as follows: Fifty percent to the general funds of the Association as partial repayment for that portion of the overhead charges of the Association incurred on behalf of the National Formulary; and the remaining fifty percent to the credit of the American Pharmaceutical Association Research Fund. This fund is to be held as a permanent fund by the American Pharmaceutical Association through its Council or controlling body.

"Until such time as the American Pharmaceutical Association Research Fund has accumulated from this source or from bequests, contributions, etc., a fund of not less than one hundred thousand (\$100,000.00) dollars, the Council may expend not more than fifty percent of the net income of said Fund. When this Research Fund shall exceed one hundred thousand (\$100,000.00) dollars, then the Council may expend annually a sum not exceeding the income derived from the investments held by the said Research Fund.

"From the funds thus available, the Council may grant such honorariums or awards to encourage investigation and research upon any subject relating in any way to pharmacy or to the collateral sciences as may in their judgment be deemed proper. In the granting of such honorariums or awards, preference shall be given to such applications or subjects as are recommended by the committees of Revision of the United States Pharmacopoeia or the National Formulary."

Jeannot Hostmann moved that the Committee be given a vote of thanks and that the Committee be discharged, seconded by S. L. Hilton. Carried.

S. L. Hilton presented the report of the American Joint Committee on Horticultural Nomenclature.

Wm. B. Day moved, seconded by H. V. Army, that this report be referred to the Association. Carried.

Wm. B. Day moved, seconded by H. M. Whelpley, that Rules of Finance—Rule 15—be amended as follows:

Rule 15. Rules of Finance. *Depository of the American Pharmaceutical Association Research Fund.* That the selection of the depository and all investments of the funds of the American Pharmaceutical Association Research Fund shall be made by the Treasurer and the Committee on Finance. Carried.

J. H. Beal stated that a paper had been read before the Section on Education and Legislation on Compulsory Health Insurance by Harry B. Mason, and that the Section requested that early publication be had of the paper and that reprints be provided; seconded by H. V. Army. Carried.

Chairman J. A. Koch of the Committee on Standards, presented the report of this Committee together with a communication to be addressed to the U. S. Department of Agriculture. The report of the Committee was approved and after some discussion it was voted to send the communication referred to the U. S. Department of Agriculture:

To the Council of the American Pharmaceutical Association:

The work of the Committee on Standards during the past year has been limited. This may be attributed to a number of causes, one of which is the change of Chairmanship. The present war conditions has interfered materially with the progress of the Committee's work, the time of the members being very much in demand, while market conditions have been such as to make it extremely difficult to obtain fair samples of many drugs for which standards are both desirable and necessary.

While the work of the Committee during the two or three years preceding this has been confined almost entirely to work on standards for the National Formulary it is the opinion of the Committee that the work should now be directed to drugs and chemicals not contained in either the U. S. P. or N. F., thus coming back to the original purpose for which the Committee was formed.

Conforming with this intent and bearing in mind the present market conditions, the following topics have been assigned and accepted for report by members of the Committee, and work on these substances has been in progress for several months, so that reports may be reasonably expected within a short time:

Carthamus	Angustura	Mangrove Extract	Acetylsalicylic Acid
Aralia nudicaulis	Marrubium	Saponariae Herba	Barium Sulphate for X-Ray use
Galbanum	Symplocarpus Rhizome	Saponariae Radix	Bismuth Subiodide
Helleborus niger	Symphytum	Gnaphalium	Bismuth Tribromphenolate
Veratrum album	Piscidia	Pyrethri Flores	Betanaphthol Benzoate
Sabadilla	Manaca	Sandarac	Butyl Chloralhydrate
Curcuma	Pichi	Majorana	Calcium Phenolsulphonate
Dracontium	Tonga	Hypericum	Potassium Guaiacolsulphonate
Scopola	Malvae Flores	Papain	Quinine Ethylcarbonate
Menispermum	Ceanothus	Spiritus Frumenti	Quinine Hydrochlorsulphate
Xanthoriza	Cicutae Semen	Spiritus Vini Gallici	Quinine Phosphate
Simaruba			Sodium Biphosphate
			Strontium Lactate
			Zinc Oleate

The attention of the Council is directed to the necessity of filling the vacancy caused by the decease of Dr. Martin I. Wilbert, and also those of the three members whose terms expire.

Respectfully submitted,

J. A. KOCH, *Chairman.*

HENRY KRAEMER,

E. H. GANE,

L. D. HAVENHILL,

J. M. FRANCIS,

GEORGE M. BERINGER,

FRANK R. ELDRED.

INDIANAPOLIS, INDIANA,

August 29, 1917.

LETTER TO THE SECRETARY U. S. DEPARTMENT OF AGRICULTURE.

"The American Pharmaceutical Association assembled in convention at Indianapolis, hereby most respectfully direct the attention of the Honorable Secretary of Agriculture of the United States, that conditions governing the collection and sale of indigenous drugs are exceedingly unsatisfactory.

"Our native drugs are one of our great natural resources and while the total value of such drugs consumed amounts to millions of dollars per year, yet under normal conditions the supply available is always inadequate. Under the abnormal conditions which now prevail the situation is such as to demand any measure of relief that may be available.

"The most practicable and economical means of ameliorating this condition which we can suggest would be for the Department of Agriculture to print and widely distribute, free of charge, a series of bulletins describing in very simple language the habitat appearance, time of gathering and the method of curing a limited number of native drugs which are consumed in greatest quantity. If practicable, such information should be supplemented by practical suggestions as to packing, storing and marketing."

Chairman Koch also called attention to the vacancies on the Committee by expirations and death, and that these should be filled.

Jeannot Hostmann presented the report of the Committee on the recommendations presented in Council by the House of Delegates.

It was moved by S. L. Hilton, seconded by Dr. F. E. Stewart, that the recommendations be considered *seriatim*.

1. Transfer the reception of fraternal delegates from other pharmaceutical or allied organizations, or from departments of the United States Government, from the General Sessions to the sessions of the House of Delegates.

2. Abolish the Committee on Resolutions provided for in Articles I and IX, Chapter X, of the Association By-Laws.

3. Instruct the Committee on U. S. P. and N. F. to report in the first place to the House of Delegates, except upon financial matters.

4. Make it the duty of the Committee on Patents and Trade Marks to report to the House of Delegates instead of to the General Sessions.

5. Transfer the reports of the Commission on Proprietary Medicines, except such portions as relate to financial questions and election of members, from the Council to the House of Delegates.

The first on vote after motion of J. A. Koch, and seconded by H. V. Arny, was adopted; the second was referred to the Committee on Constitution and By-Laws, and the other proposals were referred to the Association.

W. W. Stockberger presented a report from the Scientific Section providing for a Committee on Research to be added to the Standing Committees. This was referred to the Association.

W. B. Day presented the report of the Syllabus Committee and moved that the usual annual contribution be continued, seconded by H. V. Arny and carried. The report was as follows:

REPORT OF THE COMMITTEE ON THE PHARMACEUTICAL SYLLABUS FOR THE YEAR ENDING AUGUST 31, 1917.

To the American Pharmaceutical Association, The National Association of Boards of Pharmacy, The American Conference of Pharmaceutical Faculties:

The Syllabus Committees of your organization respectfully submit the following report for the past year:

Since the current edition of the Pharmaceutical Syllabus was issued in 1914 the Committee has had a period of comparative inaction, but the issuance of a new edition of the United States Pharmacopoeia makes it necessary that another revision of the Syllabus be made, so steps are being taken by the Committee to prepare this revision to be issued in 1919 and to become effective in 1920, as previously announced.

The question of the adoption of rules for the pronunciation of pharmaceutical Latin was referred to the Committee in 1916, by the American Conference of Pharmaceutical Faculties, and this question will receive consideration and treatment in the next revision of the Syllabus.

During the last year the Committee paid off all its indebtedness, and it now has a small balance in its treasury, in addition to the value of the 200 copies of the book on hand.

The Committee requests and recommends that your organizations each continue the annual appropriation of twenty-five dollars towards the necessary expenses of its work.

Signed,

WILLIS G. GREGORY,
Chairman.

THEODORE J. BRADLEY,
Secretary-Treasurer.

Wm. B. Day moved that the Association continue membership in the National Drug Trade Conference; seconded by George M. Beringer, and carried.

The report of the Committee on Weights and Measures was presented from the General Session. The Council favored membership in the Metric Conference and on motion it was directed that the annual dues of \$10.00 be paid. The report is printed in the October issue, p. 912.

A report from the joint sessions of the Section on Education and Legislation A. C. P. F. and N. A. B. P. relative to Fairchild Scholarship was presented and referred to the Fairchild Scholarship Committee. It was as follows:

The joint session of Section on Education and Legislation A. C. P. F. and N. A. B. P. recommends to the Council that in re. the Fairchild Scholarship it is the sense of these three bodies in joint session that Mr. Fairchild could render the greatest service in Pharmacy by offering this scholarship to a graduate pharmacy student in order that he might pursue some research problems for one full year in the school of his choice, and further, that this scholarship be awarded on the basis of the applicant's scholastic training, his standing as an undergraduate pharmaceutical student and upon his fitness to do research.

Adjourned.

F. G. EBERLE,
Acting Secretary.

FIRST SESSION, 1917-18.

The First Session of the Council of the American Pharmaceutical Association, or reorganization meeting, was held at the Hotel Claypool on Friday evening, August 31, 1917, at 6.30 P.M.

Present: Messrs. Wulling, Hilton, Whelpley, Godding, Day, Hopp, Eberle, Hostmann, Stewart, Fischelis, Army, Bradley, Snow and Mayo.

Dr. H. M. Whelpley was chosen as chairman *pro tem* and E. G. Eberle as secretary *pro tem*.

Election of the officers for the ensuing year was then held as follows:

H. V. Army moved, seconded by Jeannot Hostmann, that Lewis C. Hopp be made Chairman of the Council. Carried.

H. V. Army moved, seconded by Dr. F. E. Stewart, that S. L. Hilton be made Vice-Chairman of the Council.

S. L. Hilton moved, seconded by Jeannot Hostmann, that J. W. England be elected Secretary of the Council.

On motion of F. J. Wulling, seconded by Dr. F. E. Stewart, Wm. B. Day was elected General Secretary.

On motion of Dr. F. E. Stewart, seconded by Jeannot Hostmann, Dr. Henry M. Whelpley was made Treasurer.

Jeannot Hostmann moved, seconded by Dr. H. M. Whelpley, that H. V. Army be elected Reporter on the Progress of Pharmacy.

On motion of Dr. F. E. Stewart, seconded by F. J. Wulling, E. G. Eberle was elected Editor of the JOURNAL.

On motion, E. G. Eberle and W. B. Day were named as a committee on nominations for the standing committees of the Council for 1917-18 to report at the next meeting of the Council.

Adjourned to meet Saturday, September 1, 1917, at 9.00 A.M.

F. G. EBERLE,
Acting Secretary.

SECOND SESSION, 1917-18.

The Second Session of the Council of the American Pharmaceutical Association was held at the Hotel Claypool on Saturday morning, September 1, 1917, at 9.00 A.M., Chairman Hopp presiding.

Present: Messrs. Army, Bibbins, Day, Eberle, Eldred, Hilton, Hostmann, Hopp, Mayo, Snow, Turner, Utech, Whelpley, White, Wulling, Dewoody, Bradley, and Claus.

The minutes of the first session of the Council for 1917-1918 were read and approved.

The Committee on Nominations of Committees reported as follows (See Council Letter No. 1):

F. E. Stewart moved, and F. R. Eldred seconded, that they be elected. Carried, and the Secretary *pro tem* was instructed to cast the unanimous ballot of the Council.

George M. Beringer suggested that a committee be appointed to formulate plans for making awards from the American Pharmaceutical Association Research Fund, and also to outline the provisions under which the Research shall be conducted.

Considerable discussion followed in which the expenditures from this fund were referred to. Mr. Beringer stated that he did not have the finances in mind—this was properly in the province of the Finance Committee, but it was essential that a committee formulate the working plans under which research should be conducted and the awards made, in order that the Fund which had been provided could be made available for specific purposes and under proper provisions and regulations.

S. L. Hilton moved, seconded by F. J. Wulling, that a committee of five be appointed for formulating plans, this committee to report to the Council at the next annual meeting. Carried.

H. M. Whelpley moved, seconded by H. V. Army, that no award from the American Pharmaceutical Association Research Fund be made this year. Carried.

Wm. B. Day stated that on account of delinquents about the first of the year, who are continued on the rolls for a month or more before suspension, that more copies of the JOURNAL were usually required for January and February, and hence, these numbers became exhausted.

F. J. Wulling moved that, if necessary, an additional hundred Journals be printed of these numbers. Seconded by H. M. Whelpley and carried.

Treasurer Whelpley stated that there was some idle money in the treasury, which should be invested. He suggested that Liberty Bonds be purchased.

After discussion F. E. Stewart moved, seconded by F. R. Eldred, that the Treasurer be authorized to purchase Liberty Bonds for the Current Account and Funds to an amount not to exceed \$10,000, and that whether the bonds purchased shall be registered or coupon bonds be left to the discretion of the Chairman of the Finance Committee and the Treasurer. Carried.

Adjourned.

F. G. EBERLE,
Acting Secretary.

DUTCH PHARMACISTS AND HEALTH INSURANCE.

Amsterdam, Holland, druggists have gone on strike. Tired of filling health insurance prescriptions without profit, they have thrown their hat in the ring and struck *the first blow*.

Forty-three of them employing 150 assistants, and dispensing an average of 8,000 prescriptions a day, point blank refuse to do any more of this *charity work*.

American pharmacists who will be menaced this winter with a plethora of legislation, aiming to introduce compulsory health insurance in America, will find in this incident food for serious thought with which to steel them for their great fight against this new and insidious attack on their business interests.—*Drug Topics*.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

CHICAGO.

The 91st monthly meeting of the Chicago Branch of the American Pharmaceutical Association was held November 22, 1917, at Kuntz-Remmler's Restaurant. The meeting was preceded with a dinner. There were about 50 members and guests in attendance. An exhibit of U. S. P. and N. F. galenicals at the A. M. A. convention, to be held in Chicago next June, was favored.

The first subject for discussion was the new pharmacy law in Illinois and its relation to the scarcity of clerks.

William S. Denton, of the Illinois Board of Pharmacy Examiners, explained the workings of the new pharmacy law, especially the prerequisite features and the need for a greater number of assistant registered pharmacists. The prerequisite will not affect candidates for examination for some time to come. Apprentices should be encouraged to come up for the assistant registered examination just as fast as they can meet the requirements.

H. C. Christensen stated that more registered assistants was the solution of the clerk problem. He also said that statistics he was now gathering pointed to the fact that about sixty percent of the candidates now appearing before state boards for full registration were high school graduates.

T. H. Potts discussed the evolution in retail business brought on by war conditions and stated that he believed many of the financially weaker drug stores would not be able to weather these conditions, but he also believed this dropping out of the weaker stores would eventually much improve conditions in the retail drug trade and would help solve the clerk trouble.

I. M. Light was very optimistic over conditions in Chicago and stated that druggists generally were prosperous and were solving the clerk difficulty. Stores were kept open

fewer hours daily, the wives of druggists and women clerks were frequently found assisting in stores and a general re-adjustment was being made. He stated that the demand for clerks was very much lessened and that the wages for clerks had reached their highest point.

William B. Day discussed the requirement of three years' experience before the apprentice can take the assistant examination and held that in case the applicant had completed his college work during these three years, the full amount of time spent in the college should be allowed as experience. Under the present ruling of the State Board only one college year is allowed in this experience time. If a young man enters the college immediately after his high school course, completes the college work in two years, and then is required to put in two more years in a drug store as apprentice, he has qualified for the full registered examination.

The next subject for discussion was the alcohol question, most ably presented by Samuel C. Henry. Mr. Henry explained the status of tax-paid beverage alcohol, the effect on the alcohol situation of the Food Control Act and the numerous regulations regarding the purchase, use and sale of non-beverage and medicated alcohol. He prophesied that the time was near at hand when the vexatious libel of "retail liquor dealer" would be lifted from the pharmacist and that a new condition would be brought about whereby all dealers in alcoholic medicines, including dispensing doctors, will be licensed by the national government. The license probably will be less expensive than \$25, it will not give the privilege of selling alcoholic beverages and it will remove the stigma from pharmacists of being retail liquor dealers. Mr. Henry was the center of a storm of questions for nearly an hour.

E. N. GATHERCOAL,

Secretary.

CINCINNATI.

The regular monthly meeting of the Cincinnati Branch of the American Pharmaceutical Association was held at the Gibson House, Tuesday, November 13. President Louis Werner presided. Secretary Apmeyer made a full report of the preceding meeting, while Treasurer Greyer made a statement regarding the financial affairs of this Branch, the same showing a perfectly healthy condition, and eventually leading to a new spirit with the result of ten new men seeing the necessity of joining the A. Ph. A.

The President then introduced the speaker of the evening, Prof. C. T. P. Fennel, whose subject, "Pharmacology and Pharmacy of To-day," was well received. Prof. Fennel states that pharmacology is really a modern term and does not mean alone pharmacy, but according to the Pharmaceutical Syllabus includes *materia medica*, botany, chemistry, pharmacy, physics, arithmetic, Latin, as well as pharmacognosy, toxicology, posology and biology, not omitting even commercial training in its curriculum.

Prof. Fennel expressed himself freely and frankly as concerns the advancement and changes that have been made in the direction of pharmacy, including pharmacology and its connection with medicine, in general. He called attention to the fact that the old-time compounds made by pharmacists have been practically displaced through the changes that have taken place in medical education. He showed how insidiously and irresistibly the practice of pharmacy has undergone a revolution and that the pharmacist of the olden time has been practically relegated to obscurity, very few being now in a position to make a living by old-time processes and methods.

The relationship between pharmacist and physician has also undergone a revolution, the physician now depending in his practice largely upon preparations made by manufacturing pharmacists and dispensed (not made) by apothecaries.

The Professor cited a personal experience, where, in visiting a drug store where one of the brightest graduates of the college of pharmacy was employed, he found to his surprise that said clerk was employing a concentrated tincture, made by a manufacturing house, instead of using the crude drug, etc., and following the U. S. P. direc-

tions, in order to obtain the finished tincture.

This seems to exemplify the changes that have taken place in other directions, in which the apothecary is leaning increasingly upon the manufacturing pharmacist.

Another very serious cause to further estrange the pharmacist from pharmaceutical manipulations is the War Tax placed upon alcohol, which has become so heavy as practically to prevent extemporaneous manipulative processes, wherein crude drugs are used by maceration or percolation, as the pharmacist has not the means of recovering the waste alcohol by distillation, nor by physical expression, for according to Dr. John Uri Lloyd's estimate, "you lose for every pound of drug employed one pint of alcoholic menstruum." This, added to the expense of manipulation, the loss of the second percolate, together with the expense of assaying the preparation for both the alcoholic content and its drug qualities, may possibly lead the apothecary of the near future to purchase most of this class of preparations from the manufacturing pharmacists.

Prof. Fennel received a vote of thanks for his most excellent discourse, after which President Werner introduced the next speaker, Attorney Frank H. Freericks, who addressed the members on "The New Income Tax and on the Sale, Taxation and Use of Non-Beverage and Special Denatured Alcohol."

Mr. Freericks very ably handled these subjects by means of discourse, charts and questionnaire, bringing all the intricate points to a clear understanding of his attentive auditors.

Returns of Income Tax must be made upon forms furnished by the Internal Revenue Department.

The Act of September 8, 1916, requires returns on income tax only from persons with incomes of \$3,000.00 and allows exemption of \$3,000.00 to single persons, and \$4,000.00 to heads of families, either husband or wife, but not both as individuals.

Under the new War Revenue Law, all single persons, whose annual income is \$1,000.00 or more, and all married persons living together, whose income is \$2,000.00 or more, are required to make return. Married persons who are separated must make return on the same basis as single persons.

Returns are to be made for the period January 1, 1917, to December 31, 1917, inclusive. Same must be filed in the collector's

office on or before March 1, 1918. Tax assessed on the returns must be paid on or before June 15, 1918.

Incomes of single persons up to \$3,000.00 a year are subject only to the tax imposed under the War Revenue Act of October 3, 1917. The new law operates exclusively also on incomes of married persons up to \$4,000.00 a year. Where the income of a single person is in excess of \$3,000.00, and of married persons in excess of \$4,000.00 a year, then both the new and the old laws operate. The income in excess of the amount exempted under the old law—\$3,000.00 for single persons and \$4,000.00 for married persons—is subject to a total tax of 4 percent; and the amounts in excess of \$1,000.00 in the case of single persons and \$2,000.00 in the case of married persons, and under \$3,000.00 and \$4,000.00, respectively, is subject to a total tax of 2 percent. In addition to the exemption of \$2,000.00 to married persons provided for under the new law, there is an additional exemption of \$200.00 allowed for each child under 18 years old. Where the income of any individual is \$5,000.00 or more above exemption, the new act imposes surtaxes, ranging from 1 percent to 50 percent. Where the income is \$20,000.00 or more, surtaxes are assessed under both the new and the old acts.

The new law requires all persons making payments to others of \$800.00 or more in the year 1917, shall report the same to the collector on blanks to be obtained in the collector's office.

Losses incurred in trade are proper deductions. However, on any transactions entered into for profit but not connected with trade or business, the losses actually sustained may be charged off to an amount not exceeding the profits derived during the year. Stock dividends are considered income to the amount of surplus, undivided profits and earnings so distributed. Contributions or gifts within the year for religious and charitable purposes may be charged off as a reduction to an amount not in excess of 15 percent of the taxpayer's net income. Salaries received from the city and state are not taxable under the provisions of the Federal Law and need not be included in the returns. Failure to file return of income is penalized by the assessment of an additional tax of 50 percent and the imposition of a specific penalty of from \$20.00 to \$1,000.00.

The two following resolutions, which were

adopted by this Branch are self-explanatory.

"WHEREAS, There is a conflict in the provisions of the war excess profit tax under Sections 201 and 203, under which it can be held that every merchant with a net income of \$2,000.00 is liable to the payment of excess profits up to as much as \$1,000.00, and others in proportion, when it is intended that excess profit shall only be levied on net income in excess of \$6,000.00, plus from 7 to 9 percent on invested capital; therefore be it

"Resolved, That the Cincinnati Branch of the American Pharmaceutical Association call this conflict to the attention of our Congressmen and United States Senators to the end that they will be interested to see the law either amended or otherwise so construed by the Commissioner of Internal Revenue as to cause no injustice to the smaller merchants of the country."

"WHEREAS, The revenue laws of the United States under certain restrictions provide for tax-free 'specially denatured alcohol' to be made at 'industrial distilleries' suitable for use by bonded manufacturers in the preparation of many medicines for external use, lessening their cost to the public by approximately four dollars (\$4) per gallon, and

"WHEREAS, Cincinnati is the logical center for the establishment of such industrial distillery with a view of supplying the needs of the entire middle west, therefore be it

"Resolved, That the Cincinnati Branch of the American Pharmaceutical Association bring this matter to the attention of the Cincinnati Chamber of Commerce so that it may become instrumental in the establishment here of such industrial distillery."

DETROIT.

At the meeting of the Detroit Branch of the American Pharmaceutical Association held Nov. 16th, Dr. John E. Clark, Medico-Legal Expert and Toxicologist for Wayne County, gave a decidedly interesting lecture on "Experiences of a Toxicologist." He explained the various kinds of cases which come to him and showed the great progress made by science in its relationship to law.

Mr. Charles M. Woodruff, member of Detroit bar, and legal expert for Parke, Davis & Co., gave an informal talk, which was very instructive and enlightening, on "Laws and Responsibilities of a Pharmacist."

MAY STRAWN,
Secretary.

NASHVILLE.

The regular meeting of the Nashville Branch of the American Pharmaceutical Association was held in joint session with the Nashville Drug Club, November 15. D. J. Kuhn of the latter organization presided.

E. J. Schott reported for the Sanitary Committee that the law regulating operations at the soda fountain became effective November 1st and that it was being complied with generally. The smaller stores are using paper cups and at the larger fountains the glasses are being sterilized by use of hot water.

President Kuhn called attention to the fact that several local druggists had recently been arrested for selling Tincture of Ginger for beverages and that considerable publicity had been given this in the daily papers. He commented that this reflected on all druggists to some extent and that attention should be given this matter. A committee was appointed, consisting of Messrs. E. J. Schott, Ira B. Clark and D. S. Sanders, who at once investigated the matter and reported that most of these sales had been made at one store, the proprietor of which had formerly been in the saloon business. The following resolution was unanimously adopted:

"Resolved, That the druggists of Nashville oppose the sale of Tincture of Ginger or any other medicine for beverage purposes and that we look with contempt upon any man in the drug business who will lend himself to such sales, and that the influence of these associations be used for prosecuting these offenders."

A special session was called to meet November 16 to discuss this matter with the officials and offer every support in prosecuting the violators of the law.

It was reported that the sale of cigarettes had been stopped, pending a decision of the Tennessee Supreme Court now in session. The War Revenue Bill was discussed in its various phases. It was reported that the store of Page

& Sims Co. was broken into on the night of November 13 and a quantity of narcotics stolen.

At the special meeting held on November 16, county officials were present and exhibited a large number of bottles of Tincture of Ginger that had been seized. A communication was read from Food and Drug Commissioner, Harry Eskew, stating that he would prepare a ruling relative to the sale of Tincture of Ginger. The following resolution was agreed on and adopted:

"Resolved, That we the members of the Nashville Drug Club and the members of the Nashville Branch of the American Pharmaceutical Association agree to take an inventory of our stock of Tincture of Ginger and report thereon to the sheriff of Davidson County, and, we further agree to keep this preparation separated from the other drug stock, and we will not sell any of it except on prescription until there is a ruling by the Pure Food and Drug Commissioner and the Attorney-General of the State, and further,

"Resolved, That we urge all other retail druggists of Nashville to do likewise."

WILLIAM R. WHITE,
Secretary.

WASHINGTON CITY.

The recent meeting of the City of Washington Branch A. Ph. A. was given over largely to a detailed account of the meeting of the Association at Indianapolis and of the Pharmaceutical Section of the American Chemical Society at Boston. Mr. Lewton, of the National Museum, spoke of the progress made in gathering pharmaceutical collections. The collection of official drugs is complete and work is under way to develop the collection of pharmaceutical forms and an exhibit of manufacturing processes.

H. C. FULLER, *Secretary.*

DRUG RAISING IN WISCONSIN.

The report of the Pharmaceutical Experiment Station of the University of Wisconsin on the cultivation of drug plants during the past season shows that several acres were planted and that the year's harvest includes an acre of belladonna, a half acre of hyoscyamus, an acre of peppermint, a half acre of wormwood and a half acre of digitalis.

The cultivation of medicinal drugs on a commercial scale was begun by the station this year at the request of the office of drug plant and poisonous plant investigations of the Federal Bureau of Plant Industry. The work was made possible by a special legislative appropriation as a war measure and to handle the increased activities. W. O. Richtmann was appointed pharmacognosist.

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, E. L. NEWCOMB, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Editorial Office: 253 Bourse Building, Philadelphia, Pa.

WILL YOU DO YOUR BIT?

At the conclusion of another year the Publication Committee invites the members "to do their bit," in conveying to the patrons of the Journal assurances of coöperation and appreciation of their business, and also in encouraging others to make use of the advertising pages for sending their monthly messages. A word from the members will no doubt often be more effectual than the arguments that can be presented from the office. Many other manufacturers and dealers could advantageously use advertising space in the Journal, and they would do so if they were convinced that such coöperation would bring them returns. The same request has been made in former years and the liberty is again taken with the assurance that this interest on the part of the membership will be mutually helpful.

CREATING A DENTAL CORPS IN THE ARMY.

By concurrence of the House in Senate amendments to House Bill 4897 in the closing hours of Congress, October 6th, a Dental Corps has been created in the Army, corresponding to the Medical Corps, the membership of which shall have the rank, pay, promotion and allowance of officers of and shall be of the corresponding grade of the Medical Corps. Chairman Dent, of the House Military Committee, explained that the House bill relating to members of the Dental Service of the Army corresponded to the section of the national defense law which waived the former requirement of the law of five years' previous service in the Army as lieutenant before a member could be promoted to the next higher rank, and so on for the higher grades. The Senate practically adopted the House bill with the material amendment that a Dental Corps be created in the Army. Heretofore, the highest rank a member of the dental service could attain was that of major, and it would require

twenty-four years of service before he could obtain that rank. At present the highest officers in the Army dental service have the rank of captain.—*Journal A. M. A.*

WARNING AGAINST MEDICINE FRAUD.

Imposters posing as federal employees are trying to sell rheumatism and other "cures" which they represent to the gullible as being made by the United States Government, is a warning issued by the Bureau of Chemistry, United States Department of Agriculture. Letters received from residents of Minnesota and South Dakota tell of such misrepresentations by agents of the "United States Medical Dispensary" or "Dr. Henry Post," Washington, D. C. The packages and labels guaranteed for \$20 "cures" for various ailments, but failed to give any address of those who are to refund. Federal inspectors have been unable to locate any such concern or doctor in Washington or elsewhere.

The label contains a serial number and states that the "product" is "guaranteed by Dr. Post under the national pure food and drugs act of June 30, 1906." The number given is that assigned to a concern which has never made such a product and has no connection with Dr. Post or a Dr. George Lawrence of South Dakota, who, according to a correspondent, represented himself as both Dr. Post's agent and an employee of the United States Government.

The department's inspectors can not find that the product is being shipped in interstate commerce, which would bring it under the Food and Drugs Act and are of the opinion that the agents carry it personally to escape detection by the Federal authorities. The department therefore has brought the matter to the attention of various state and city food and drug officials with the view of securing their coöperation in detecting and preventing such fraudulent practices.

COMPARISON OF SALVARSAN AND JAPANESE SALVARSAN SUBSTITUTES.

Quoting *Chemical Abstracts*, November 10, 1917, p. 2934, from *Japanese Medical Literature* (1917) 2, Part 2 (9), various substitutes for salvarsan and neosalvarsan have been placed on the market under such names as arsaminol, sodium arsaminol, ehamisol, neohamisol, tanvarsan, neotanvarsan and arsenmin. These Japanese preparations were tested pharmacologically on rats and dogs, and also compared with control experiments, using Ehrlich sold salvarsan. Clinical tests were also made in syphilitic cases. The workers K. Dohi, H. Nakano and T. Kambayashi state that: "The toxicity of all preparations was noticeably less than the German one, although the possibility is allowed that the latter may have changed somewhat with age. The Japanese preparations seemed to have fully as much value as the original and yet lacked much of the reaction that usually accompanies the injections of the latter."

THE USE OF SACCHARIN IN SYRUPS, ETC.

Ernesto Repetto, in *Revue Pharmaceutica* 60, 407-419, 1917, recommends the use of saccharin in medicinal preparations. It is claimed that it contributes no ill effects and is really advantageous because it prevents stomach and intestinal fermentation. Glycerin is recommended as a solvent.

THEORY OF EMULSIFICATION BASED ON PHARMACEUTICAL PRACTICE.

W. O. Emery, in *Chemical Abstracts*, November 20, 1917, p. 3094, presents the conclusions of W. G. Crockett and R. E. Oesper on above subject in an article printed in *J. Ind. Eng. Chem.*, 9 (1917), 967-969. These are based on numerous experiments, which follow: (1) Critical points have been estab-

lished using tragacanth and Irish moss as emulsifying agents. (2) Better tragacanth emulsions are obtained by adding the proper amount of water to the previously mixed internal phase and emulsifier and shaking immediately, than by adding the water in portions, shaking after each addition. (3) If the water and the critical amount of tragacanth are made into a mucilage and this then shaken with the internal phase, no emulsion is formed. (4) The critical points are not affected by allowing the dried internal phase to stand in contact with the emulsifying agent before the addition of water. (5) Irish moss emulsions are not affected by small quantities of alcohol, but are instantly cracked by the addition of a trace of soap either before or after the addition of the water or after emulsification has been completed. More than a trace, however, is not detrimental but aids the moss in producing emulsification. (6) Glycerin serves to re-emulsify emulsions cracked by soap, and emulsions to which glycerin has previously been added are not cracked by a trace of soap. It does not directly aid the moss as an emulsifier. (7) Acacia emulsions are not cracked by the addition of a trace of soap. If less than the critical amount of acacia is used, a trace of soap added before the addition of the water supplements the acacia and emulsification ensues; if, however, emulsification is attempted by shaking the internal phase with water and an insufficient quantity of acacia and then adding the soap, it is found that no emulsion is produced, by not only the quantity of soap previously used, but even by many times that quantity. (8) Critical points are less distinct with more viscous than with the less viscous oils. (9) Tragacanth is not suited for the emulsification of fixed oils in water under the foregoing conditions, for it forms a thick, ungovernable mass. (10) Critical points vary with the shape of the container in which the emulsions are made.

OBITUARY.

IN MEMORY OF CHARLES CASPARI, JR. (Continued.)

CHARLES HOLZHAUER.

The American Pharmaceutical Association has lost a most valuable member in the death of Charles Caspari, Jr. A man of exceptional ability and of sterling character—he was untiring in his efforts to raise the stand-

ard of our Association higher and higher, and without any thought of gain to himself. To know the right and to do it, was ever uppermost in his mind. I knew Mr. Caspari for a long period of years and my respect for him has constantly increased. His memory will ever be cherished, and truly his works will live after him.

H. H. RUSBY.

As we review the long roll of prominent members of the American Pharmaceutical Association who have been taken from our ranks by death during recent years, their individual characteristics and their peculiar lines of usefulness to the Association show forth more clearly than while they were still in harness; perhaps because during life their personal qualities and relations with us blinded us to their more distant, though broader activities. It is difficult for me to forget my personal loss in Professor Caspari's death while reflecting on that of the Association. He was to me a warm and faithful friend and a willing, patient and tireless co-worker. My first impressions of him, as we became acquainted in Association work, have never changed except to strengthen, for he was exactly what he seemed to be at first sight. In dealing with him one was never obliged to beat about the bush, to make allowances for hidden meanings, or to indulge in speculations as to his position. Except when he preferred to keep silent, Professor Caspari was absolutely sincere and frank in his expressions. He was the soul of honor and his honor reached the very depths of his being. His courage never failed. With no element of combativeness, scarcely of aggressiveness, he was never found wanting when men were to be counted for a cause, and in the place that he assumed, he could be counted on to stick until the last. In all my close acquaintance with him, I never knew him to fail in measuring up to his own high ideals, and he has always been to me a source of encouragement and strength. I know that my associates feel the same. The Association has lost a strong, as well as faithful friend and supporter and one whose example can well be studied and imitated by our younger members.

THE CHARLES CASPARI, JR., MEMORIAL.

At a meeting in memory of the late Prof. Charles Caspari, Jr., held at the University of Maryland on October 23rd, several suggestions were offered that some permanent memorial of his life be established. Following these suggestions, Dr. J. F. Hancock, Chairman, asked the officers and those gentlemen who at the meeting represented the College of Pharmacy and the manufacturing, wholesale and retail pharmacists, to act as a

committee to consider these suggestions and suggest some suitable plan of action. The committee, on November 8th, organized and elected Dr. J. F. Hancock chairman and E. F. Kelly secretary-treasurer. After careful consideration and general discussion of the matter, the committee has decided to ask contributions from former students, friends and admirers, to provide an oil portrait of Prof. Caspari, to be hung on the walls of the Department of Pharmacy, University of Maryland and a scholarship, or scholarships, for senior students in the Department of Pharmacy, to be awarded annually by the Faculty of Pharmacy, and to be known as The Charles Caspari, Jr., Scholarship, or Scholarships.

The fund collected, after the cost of the portrait and necessary expenses are deducted, will be invested in stable, interest-bearing securities, preferably government bonds, and these will be trusted to the Faculty of Pharmacy of the University of Maryland, the interest only to be used in providing the scholarship, or scholarships, which are to cover the annual tuition fee only.

It is confidently believed by the committee that a memorial of such practical value would have most appealed to him whom we honor, and who gave his best efforts to the instruction of students. It is impossible to address personally all who may wish to take part in this memorial, but the committee will give the movement the widest publicity and hopes that all who may desire to do so will consider themselves invited to contribute to the fund.

It is requested that all contributions be made payable to E. F. Kelly, Secretary-Treasurer, and addressed to him at Lombard and Greene Streets, Baltimore, Maryland.

Respectfully,

JOHN F. HANCOCK, *Chairman*,
D. M. R. CULBRETH,
JOHN B. THOMAS,
A. R. L. DOHME,
JOHN C. MUTH,
E. F. KELLY,

Committee.

IN MEMORY OF CHARLES HOLZHAUER.

JOSEPH L. LEMBERGER.

For many years I have known and respected most highly our departed friend Charles Holzhauer. In association affairs we frequently worked together and there impressions were made that enable me to say, he was a man of sterling integrity, preferring to do

right in all things. He was a useful member of the American Pharmaceutical Association and well deserved the honor conferred as presiding officer. We will miss him at the annual meetings; he was rarely absent. The community in which he lived will miss him also; he was a good citizen and faithfully worked for the uplift of humanity. Memory of good deeds will follow him. The sympathy of many friends is due the family in their severe affliction.

W. L. DEWOODY.

Through a message from Dr. H. M. Whelpley I learn of the death of our president, Mr. Charles Holzhauser. I am both shocked and grieved. His loss will be deeply felt by the entire Association and especially by his host of friends who knew him well and appreciated his honest, earnest and valuable work.

J. W. ENGLAND.

Charles Holzhauser has lived the proverbial three score years and ten of the Psalmist and has entered into his reward. He has served his God and his fellowmen with unusual zeal and industry and his life has been a real success.

Strong and positive in his opinions, he was not unreasonable, and the older he grew the more we all came to love the genial, warm-hearted personality of the man and admire his sterling, upright character. He had high ideals and he lived up to them. He never grew "stale," but kept in touch with modern progress. He loved the American Pharmaceutical Association and all that it stood for and he worked untiringly for its interests.

His life's work was like the man himself—honest, useful, thorough and well-balanced, and he has not lived in vain.

S. L. HILTON

It is with the deepest regret that I learn of the death of President Holzhauser. He was one of the staunch members of the American Pharmaceutical Association, a man of most pleasing manners and disposition and just the kind of man we wanted as president of our Association. His administration, I am sure, would have developed many good things for American Pharmacy.

F. J. WULLING.

I first met our lamented friend, Charles Holzhauser, in the middle 80's, when I presented myself at Newark, New Jersey, for an examination by the State Board of Pharmacy,

of which he had formerly been the president and in which his interest still persisted. Mr. Holzhauser had then been in business and a member of the American Pharmaceutical Association for something over twenty years and I learned then to regard him as a mature man and a pharmacist of high ethical and professional standards and aspirations. We have been good friends since. I met him frequently during my attendance at the New York College of Pharmacy. He was active as one of the trustees at the time, I believe. The good and helpful advice of my friend given me in my youthful days has been of constant value to me. However, I was only one of many young men in whom he became interested and whom he stimulated with helpful advice and example. Although our friend belonged to the old school with its higher professional and practical standards, he yet had the wisdom to adapt himself, though sometimes reluctantly, to the modern trend of retail pharmacy. While he did so his heart was always in the professional ideals that underlay his early pharmaceutical training.

In his passing on, ethical pharmacy has lost one of its staunch advocates and supporters and American pharmacy thereby suffers a distinct loss.

President Holzhauser had many friends and all who knew him were his well wishers. In short, he was a lovable man.

GEO. M. BERINGER.

Charles Holzhauser—In the decease of President Charles Holzhauser, American pharmacy has lost another of the leaders that we can but illy spare. When the history of our calling is written, he will be found to have occupied a high position as an advisor and director of action. As one who had been for years closely associated with him in pharmaceutical circles and who enjoyed his confidence, I had many opportunities of observing his unselfish labors and the nobleness of his purpose and the generosity of his nature. In everything that he undertook, he became a power by virtue of his enthusiastic service, his wise counsel and the confidence that he inspired. He was devoted to his business, to his family, to his church and to his pharmaceutical associations, and in all of these took a full share of work which was always accomplished in his usual energetic way and without any show or seeking of publicity.

Mr. Holzhauer was noted among his host of friends for his ripe experience and knowledge of human nature and his excellent judgment and so he was very frequently appealed to for advice and guidance. No one will ever know to how many in all avenues of business and walks in life he has played the part of a "Big Brother." Devoid of self-seeking, disliking anything that seemed like show or ostentation, his work was performed so quietly that many were never even acquainted therewith. Nevertheless, there are a host of those who have enjoyed his big hearted, kindly advice and who admired greatly the sincerity of purpose, the firmness of conviction, the uprightness of character, the liberality of his views and his faithfulness as a friend and christian brother, in whose future life there will be a continuous void because our friend and brother has gone—before.

(On account of publication date it was necessary to hold other contributions.)

JOHN FERGUSSON

John Fergusson, until recently president of the Philadelphia Drug Exchange, died November 30th, at his home in Edgewater Park, N. J., after an illness of several months. Mr. Fergusson was for many years a member of the firm he organized, Fergusson Brothers, 109 Chestnut St. For more than fifty years he was a member of the Philadelphia Drug Exchange.

He was widely known and highly esteemed in the chemical trade. He was born in Scotland seventy-three years ago and came to this country when a boy. While not a member of the American Pharmaceutical Association, the position he held, and the genuine friendship he always exhibited, makes this brief mention a duty, to which we add an expression of highest regard and of deepest sympathy for the bereaved.

SOCIETIES AND COLLEGES.

NATIONAL COMMITTEE ON THE
PHARMACEUTICAL SYLLABUS.

BULLETIN XVI.

Some changes have occurred since the list of members of the committee was last sent out, and the corrected list with complete addresses is as follows:

From American Pharmaceutical Association.

Term
expires

- 1918 P. Gerhard Albrecht, Cleveland School of Pharmacy, Cleveland, Ohio.
- 1919 Edwin L. Newcomb, 719 Sixth Ave., S. E., Minneapolis, Minn.
- 1920 Eugene G. Eberle, 253 Bourse Building, Philadelphia, Pa.
- 1921 Harry B. Mason, P. O. Box 484, Detroit, Mich.
- 1922 George M. Beringer, 1033 Cooper St., Camden, N. J.
- 1923 Henry H. Rusby, 776 DeGraw Ave., Newark, N. J.
- 1924 Willis G. Gregory, 125 Bedford Ave., Buffalo, N. Y.

From American Conference of Pharmaceutical Faculties.

- 1918 Charles W. Johnson, 5031 Fifteenth Ave., N. E., Seattle, Wash.

- 1919 Clement B. Lowe, Lovebrook, Vineland N. J.
- 1920 William C. Anderson, 315 Greene Ave., Brooklyn, N. Y.
- 1921 Julius A. Koch, Bluff & Pride Sts., Pittsburgh, Pa.
- 1922 Theodore J. Bradley, 70 St. Botolph St., Boston, Mass.
- 1923 Clyde M. Snow, 701 South Wood St., Chicago, Ill.
- 1924 Albert Bolenbaugh, Medical College of Virginia, Richmond, Va.

From National Association of Boards of Pharmacy.

- 1918 William H. Rudder, 3 Lyons Block, Salem, Ind.
- 1919 George C. Diekman, 115 West 68th St., New York, N. Y.
- 1920 Mason C. Beebe, 75 Church St., Burlington, Vt.
- 1921 John Culley, 2479 Washington Ave., Ogden, Utah.
- 1922 Ellis E. Faulkner, Delton, Mich.
- 1923 Charles H. Skinner, Windsor, Vt.
- 1924 Otto W. Osterlund, 46th St. & Baltimore Ave., Philadelphia, Pa.

The following sub-committees are appointed
Materia Medica.—H. H. Rusby, Chairman

M. C. Beebe, G. M. Beringer, John Culley, E. E. Faulkner, C. B. Lowe, E. L. Newcomb.

Chemistry.—J. A. Koch, Chairman, P. G. Albrecht, T. J. Bradley, E. G. Eberle, C. W. Johnson, O. W. Osterlund, C. H. Skinner.

Pharmacy.—W. H. Rudder, Chairman, W. C. Anderson, Albert Bolenbaugh, G. C. Diekmann, W. G. Gregory, H. B. Mason, C. M. Snow.

A bulletin containing a statement of some principles to be observed in the revision and a general plan for doing the work is in preparation and will be distributed soon.

Signed,

THEODORE J. BRADLEY,
Chairman.

NATIONAL PHARMACEUTICAL SERVICE ASSOCIATION.

Congressman George W. Edmonds delivered an interesting address at the regular meeting of the National Pharmaceutical Service Association, held at the Philadelphia College of Pharmacy, on Tuesday evening, November 13th. He stated that his principal object in coming to the meeting was to hear the comments of pharmacists on the proposed Bill, and to secure information which would aid him in urging its passage by Congress, and that he was very glad to say a word of encouragement to those laboring for recognition of pharmacists in the government service. Mr. Edmonds referred to the days when he was a student at the Philadelphia College of Pharmacy, and said that one of the strongest arguments that could be put forth in favor of recognition of pharmacists in the Army was that they are compelled to spend almost as much time in properly fitting themselves for their profession as are physicians, dentists and veterinarians. In other words, they deserve recognition as much as do the members of their sister professions. Congressman Edmonds urged the members to see that Congress be made familiar with the existing situation and with the provisions of the Edmonds Bill. He also impressed on the meeting that a strong committee, composed of representatives of the various divisions of the drug trade, must be sent to Washington, when a hearing is given on the Edmonds Bill by the House and Senate Committee on Military Affairs.

Dr. J. Madison Taylor made a strong appeal for recognition of pharmacists in his address "The Triple Alliance in Military Medi-

cine." He stated that the domain of military medicine is a blend of three major subjects, medicine, dentistry and pharmacy, with sanitation and hygiene as essential factors of each veterinary surgery as the branch. There can be no question but that each is on a practical parallel with the other in the best they aim to achieve. He declared that it would be particularly fitting for Surgeon-General Gorgas to recommend the creation of a Pharmaceutical Corps, inasmuch as his distinguished predecessors had recommended the formation of a dental corps and a veterinary corps.

Dr. F. E. Stewart read a paper entitled "Proposed Organization of Units for Promoting a Bill before Congress known as the Edmonds Bill, for Securing an Army Pharmaceutical Corps." In this paper he emphasized the necessity for showing the government the value of a Pharmaceutical Corps, and he felt that the best way of doing this was to organize such corps at the different colleges and among associations of pharmacists throughout the United States, who could be trained to step in whenever the government needed them. This paper was first discussed by Dr. John R. Minehart, Dean, Department of Pharmacy, Temple University, who spoke of the military drill which was in vogue at the University he represented. He urged that graduates, as well as students of pharmacy, be impressed with the necessity of taking extra courses in sanitary subjects, so as to be fitted as physicians' assistants, when the country calls them to service.

As a result of the foregoing discussions, the following resolution was unanimously passed:

"Resolved, That it is the sense of the meeting that we favor the suggestion that additions be made to the courses of instruction in colleges of pharmacy when needed to meet the requirements of the Medical Service of the Army and Navy."

Dr. P. Samuel Stout, after discussing the value of the coöperation of the pharmacists in the success of the medical work of the Army, moved that physicians be asked to coöperate in the movement to secure commissions for pharmacists, and that representatives of the medical profession be appointed on the committee which presents the cause of the pharmacist at the hearing of the Bill before the Committee on Military Affairs.

One of the interesting features of the pro-

gram was the presence of five men in uniform, two of them were called upon to speak. Private F. E. Berridge, of the Post Hospital connected with the Medical Department of Fort Totten, related some of his experiences as a pharmacist in the Medical Department of the Army.

A very gratifying report as to new members was made by the Secretary, 109 having been added to the list during the month.

The Treasurer's report showed a balance of \$155.85, after all bills had been paid.

Application for membership should be sent to the Secretary, Robert P. Fischelis, 828 N. Fifth Street, Philadelphia, Pa. Pharmacists now in the service are also urged to send their names and addresses to the Secretary, so that if the Pharmaceutical Corps is organized, they may be referred to the proper authorities.

ROBERT P. FISCHELIS,
Secretary.

MEETING OF AMERICAN DRUG MANUFACTURERS' ASSOCIATION.

The Executive Committee of the American Drug Manufacturers' Association has set January 29 and 30, 1918, as the dates of the Association's Seventh Annual Meeting. The Waldorf-Astoria, New York City, has been selected as the place. The Annual Meeting of its Biological Section and Committee on Standards and Deterioration will be held on January 28th.

W. J. WOODRUFF,
Secretary.

RULINGS OF THE NEW JERSEY BOARD OF PHARMACY RELATIVE TO PREREQUISITE.

At a meeting of the Board of Pharmacy of the State of New Jersey, held in Trenton on Thursday, October 18, 1917, the following resolution was unanimously adopted:

"Resolved, That the rule regarding prerequisite requirements, be suspended in the case of those who are eligible to an examination previous to the date on which said rule becomes effective, but are prevented from taking the examination by virtue of the fact that they are in the service of the Government, in the Army or the Navy, and that such persons shall be granted the right of examination, under the same conditions existing at the time of their entrance into said service after expiration of such service.

"Resolved, That persons who have been graduated from a bona fide College or School of Pharmacy prior to July 1, 1918, will be accepted as eligible to examination under the Prerequisite ruling of this Board, whether such College or School of Pharmacy is subsequently approved by the board or not, and that Correspondence Schools and similar institutions be not classed as bona fide Colleges or Schools of Pharmacy under this ruling. (Adopted Oct. 31, 1917.)"

E. R. SPARKS,
Secretary.

A-189.

It has been reported that at the annual meeting of the National Academy of Sciences, held at the University of Pennsylvania, November 20th and 21st, Dr. Simon Flexner, of the Rockefeller Institute, announced that Doctors Jacobs and Heidelberger, of the Rockefeller Institute, have evolved an arsenic compound to replace salvarsan. The figures "189" are said to denote the number of modifications of arsenic in the new remedy.

OFFICIAL AGRICULTURAL CHEMISTS.

At a meeting in Washington of three hundred Federal, state, municipal and other officials interested in the enforcement of laws and regulations applying to foods, etc., the spice standards revised by the Association of Official Agricultural Chemists were adopted. These were printed in the March, 1917, number of the JOURNAL.

Dr. W. O. Emery, of the U. S. Bureau of Chemistry, and Chairman of the Drug Section, spoke of the method of determining monobromated camphor in migraine tablets.

Dr. Viehovever, in discussing medicinal products, proposed some substitutes to meet war needs, such as Japanese aconite and Egyptian substitutes for belladonna.

H. C. Fuller, associate referee on alkaloidal assays, presented a study of methods for the quantitative separation and estimation of quinine and strychnine with special reference to determining a method for the analysis of such mixtures. In these the problem is one of determining a minute quantity of strychnine in the presence of a large amount of quinine.

Other interesting papers at the drug session were: "Synthetic Products," by C. D. Wright; "Balsams and Gum Resins," by E. C. Merrill; and "Enzymes," by B. K. Chestnut.

The following officers were elected: *President*, P. F. Trowbridge, Columbia, Mo.; *Vice-President*, H. C. Lythgoe, Boston, Mass.; *Secretary-Treasurer*, Dr. Carl L. Alsberg, Washington, D. C.; *Additional Members of Executive Committee*, B. B. Ross, Auburn, Ala., and A. J. Patten, Lansing, Mich.

ILLINOIS PHARMACEUTICAL ASSOCIATION.

The semi-annual meeting of the Executive Committee of the Illinois Pharmaceutical Association was held at the University of Illinois School of Pharmacy, Chicago, on Thursday, November 22nd, at 1.30 P.M. President Armstrong presided. There were present executive committeemen H. J. Holt-hoefer, I. M. Light, J. P. Crowley, J. J. Boehm, L. P. Larsen, J. S. Bartkowski, J. H. Riemen-schneider and F. H. Ahlborn, of Chicago; W. D. Duncan, of Ottawa; G. Henry Sohrbeck, of Moline; T. B. Shaffer, of Oneida; W. F. Baum, of Danville; G. M. Bennett, of Urbana; W. S. Denton, of Beardstown; Stuart Broadwell, of Springfield; P. L. Gain, of East St. Louis; F. L. Pfaff, of Centralia; J. C. Wheatcroft, of Grayville; and G. W. Bower, of Anna. Also Vice-Presidents J. Robert Phillips and Frank J. Dubsky, Secretary Day, Treasurer Garver, and Messrs. Holthoefer and Mayzels. There were present also as guests, Mr. Thos. H. Potts and Secretary S. C. Henry of the N. A. R. D., and President G. R. Leonard, Vice-President R. A. Whidden and Secretary Fred Elsner of the Illinois Pharmaceutical Travelers' Association.

Treasurer Garver read his report, which showed the Association to be in good financial condition with a balance of \$939.28 in the treasury. He reported the purchase of \$700.00 of Liberty Bonds in accord with the instructions of the Association.

Secretary Day reported the accession of seventy new members since the annual meeting.

President Armstrong outlined the plans for the membership campaign and urged the importance of personal attention to this campaign on the part of every officer and executive committeeman.

Mr. Holthoefer was introduced as the man who had secured the largest number of new members in this campaign and was asked to tell how he did it. He dwelt on the necessity of personal effort and the need of a new and up-to-date leaflet informing druggists what the Association is doing for them.

Secretary Elsner reported for the Travelers'

Association in favor of La Salle as the next meeting place. He spoke of the advantages of the location, being near to historic Starved Rock and the new state park, which would be very attractive to the visiting druggists and where it was planned to have a day's outing. At the new Hotel Kaskaskia, excellent arrangements for the meeting could be made and the rates would be very reasonable. Upon motion it was decided to select La Salle for the next convention and the dates were fixed as June 18, 19, 20 and 21, 1918.

Secretary Day read a letter from Representative Frisch, urging organization and political activity as necessary for safeguarding the rights of pharmacists. Letters from Supt. F. C. Dodds and from Committeeman J. H. Harsch were also read.

In view of the changes made in the Board of Pharmacy by the new state legislative code and the uncertainty concerning the expiration of the terms of office of the examiners, it was decided not to send out voting cards but to select the nominees, if any are required, at the annual convention.

An appropriation of \$150.00 was voted for the Committee on U. S. P. and N. F. Propaganda. An appropriation of \$25.00 to cover the expenses of Editor Ormes in attending the next annual convention was made. Senator Boehm and Mr. Henry discussed the new alcohol rulings, after which the session adjourned.

W. B. DAY, *Secretary*.

GOVERNMENT WILL NEED MORE SCIENTIFIC MEN.

In a letter to Dr. Hollis Godfrey, member of the Advisory Commission of the Council of National Defense, Secretary of War Newton D. Baker said: "The successful outcome of the war is so dependent upon the applications of science that the United States can ill afford at this time to risk any diminution of this supply of technically trained men. Such diminution we must in part suffer by reason of the fact that class exemptions in the execution of the selective service law are prejudicial to its general success; but I have constantly in mind the fact that the Government service will demand more and more scientifically trained men, and so I hope those who are in charge of scientific institutions will impress upon the young men the importance and desirability of their continuing their studies except to the extent that they are necessarily interrupted by a mandatory call under the provisions of the selective conscription law."

THE PHARMACIST AND THE LAW.

THE ALCOHOL SITUATION.

As revised, the Treasury Decisions permit the purchase of alcohol without referring applications to local collectors; the new system resembles that in use in the procurement of narcotic drugs under the Harrison Act. Dealers may present the bonds of surety companies or individual sureties or deposit Liberty Bonds.

Secretary J. H. Barlow, of the Philadelphia Association of Retail Druggists, suggests the following form of application for permit: The N. A. R. D. Journal states "that while there has been no formal ruling made or instructions issued to collectors this may be safely relied upon until further notice," and continuing says "that the advantage gained is the privilege of making one sworn statement to cover all non-official and private formula preparations, instead of a separate statement for each preparation. The sworn statement may also include the declaration that the alcohol is in part to be medicated and used and sold for external application."

Now comes another difficulty, if it should be necessary to enumerate all non-officials, which would include a large number of tinctures, "specific tinctures," fluid extracts, etc. It seems that the Revenue Department has recognized the possible difficulties and, if a literal interpretation is followed, the Government will soon realize them in their own orders. It is clearly evident that a practical pharmacist is badly needed in the Revenue Department. The form of application suggested by Secretary Barlow follows:

.....19...
To.....
Collector.....District of.....

The undersigned, having filed appropriate bond, hereby makes application to (use, sell, use and sell) distilled spirits for other than beverage purposes, (a) as a manufacturer of tinctures, extracts, or other preparations designated in the U. S. P. and National Formulary; (b) in the compounding of prescriptions; (c) as a manufacturer according to private formulas, not official in the U. S. P. and National Formulary.

(NOTE.—Here a statement must be made giving the name of each non-official private formula preparation, together with the statement that it contains no more alcohol than is necessary for the purposes of solution or pre-

servation and the percentage of alcoholic content. A general statement should then follow to the effect that each of the aforesaid preparations contains in each fluidounce a dose as a whole or in compatible combination of one or more agents of recognized therapeutic value, that each preparation contains no agents, either chemically or physiologically incompatible with the active medicinal agents upon which the medicinal claims are based, and that each preparation is not a beverage and is not to be sold or used as a beverage. The foregoing general statement as to non-official private formula preparations must be made under oath, and the application for permit containing it must be made in duplicate, so as to enable the local collector to furnish the data disclosed to the chemist of the internal revenue bureau in Washington. Although the department declined to pass upon the question, and there is doubt as to just what unofficial private formula preparations must be listed in the application for permit, it might be well to be safe to include non-official private formula preparations which are cosmetics and flavoring extracts, as well as bona fide medicinal preparations. While T. D. 2576 applies only to alcoholic medicinal compounds, so far as the foregoing sworn statement in the application for permit is concerned, the department is inclined to hold that it is necessary for it to have the data suggested in relation to cosmetics and flavoring extracts to enable it to determine whether or not they are, or may be used as, alcoholic beverages.)

It would seem that the permit should be made to apply to the use of non-beverage alcohol, and stipulate that the alcohol will not be used for any other purposes than as solvent or preservative, and specifically not for use or in preparations likely to be regarded as a beverage under T. D. 2544.

SALE OF ALCOHOL BY PHARMACISTS.

Regulations issued by the Internal Revenue Department in November permit pharmacists to sell small quantities of non-beverage alcohol without a physician's prescription to persons who do not hold a permit. The text follows:

Hereafter, pharmacists who hold permits and have given bond will be permitted to sell non-beverage alcohol without a physician's prescription to persons who do not hold permits and who have not given bonds, in quanti-

ties not exceeding one pint, but not in advance of orders, provided they first medicate the same in accordance with any one of the formulas recited below:

1. Carbolic acid 1 part, alcohol 99 parts.
2. Formaldehyde 1 part, alcohol 250 parts.
3. Bichloride of mercury 1 part, alcohol 2,000 parts.
4. Bichloride of mercury 0.8 gramme, hydrochloric acid 60 Cc., alcohol 640 Cc., water 300 Cc.
5. Bichloride of mercury $1\frac{1}{2}$ grains, hydrochloric acid 2 drachms, alcohol 4 ounces.
6. Formaldehyde 2 parts, glycerin 2 parts, alcohol 96 parts.
7. Carbolic acid 1 drachm, tannic acid 1 drachm, alcohol 1 pint, water 1 pint.
8. Alum $\frac{1}{2}$ ounce, formaldehyde 2 drachms, camphor 1 ounce, alcohol and water each 1 pint.
9. Lysol 1 part, alcohol 99 parts.
10. Liquor cresolis comp. 10 Cc., alcohol 1,000 Cc. The container of such alcohol will bear a "poison" label.

Any abuse of these privileges will result in recall of the pharmacist's permit and its cancellation.

Permits will not be issued to retail liquor dealers, except pharmacists, and such other retail dealers as do not sell beverage spirits.

It will be understood that a pharmacist is in no sense a denaturer of alcohol, nor are the agents prescribed above regarded as satisfactory for the denaturation of alcohol in bulk quantities. Persons permitted to denature alcohol in bulk quantities are proprietors of distilleries having denatured bonded warehouses on their distillery premises, proprietors of central denaturing bonded warehouses, and proprietors of industrial distilleries. All persons purchasing non-beverage alcohol for use in manufacturing processes must obtain permit.

USE OF ALCOHOL IN FLAVORS.

The Commissioner of Internal Revenue has issued the following synopsis of decisions relating to syrups, extracts, alcohol used in manufacturing flavors and beverages sold at fountains:

Soft drinks—(1) Section 313, paragraph (a), does not impose a tax upon syrups or extracts intended for use by the maker for further manufacturing purposes.

(2) Is the use of flavoring extracts containing some alcohol in syrups which are to be

used in the manufacture of soda water, etc., prohibited?

There is no provision against using flavoring extracts which contain some alcohol to flavor syrups that are to be used in manufacturing soft drinks.

(3) Are carbonated beverages which are mixed and sold at fountains subject to the tax imposed under sub-division (b), Section 313, of the act of October 3, 1917? (a) There is no exemption in favor of products mixed and sold at fountains; (b) the manufacturer of soft drinks who purchases his carbonic acid gas must pay 5 cents per pound upon the amount of gas he buys (Sec. 315); (c) the manufacturer of soft drinks who makes his own gas must pay 1 percent per gallon upon all soft drinks sold (Sec. 313 (b)); (d) the manufacturer of syrups or extracts must pay from 5 cents to 20 cents per gallon upon all sales of syrups or extracts which are intended for use in the manufacture of soft drinks (Sec. 313 (a)).

(4) Extracts to be used for household purposes are not taxable.

(5) Where concentrates or extracts are sold to be further manufactured into flavoring extracts or syrups, the person completing the manufacture is subject to the tax. Where concentrates or extracts are sold to the bottler or the manufacturer of the soft drinks, the manufacturer of the concentrates or extracts is subject to the tax.

ENJOINED FROM FIXING PRICES.

In the United States Circuit Court Judge Dyer issued a perpetual injunction restraining the Paris Medicine Company from fixing the price to the wholesaler, retailer and consumer of a nationally advertised medicine. The injunction was asked for by the district attorney at St. Louis.

The Government charged that the company operates in defiance of the Sherman act. The Government alleged that it gives a bonus to dealers who adhere to its prices, but tries to prevent druggists who refuse to charge the prices it fixes from selling its product.

POSTAGE RATES.

Drop letters only remain at present rates; parcel post packages require one cent revenue stamp for each 25-cent charge; post cards, unless printed, require a 2-cent stamp. Letters for delivery in the following named countries are subject to the rate of three cents an ounce instead of two cents:

Bahamas (including Fortune Island and Inagua), Canada, Cuba, Barbadoes, British Guiana, British Honduras, Dominican Republic, Dutch West Indies (including Aruba, Bonaire, Curacao, Saba, St. Eustatius and the Dutch part of St. Martin), England, Ireland, Scotland, Wales, Leeward Islands, Mexico, Newfoundland, New Zealand, Panama, and Shanghai City (China).

The postage rate on letters for foreign countries other than those named above re-

mains as at present—five cents for the first ounce or fraction thereof, and three cents for each additional ounce or fraction thereof.

Postal cards and post cards (private mailing cards) for all foreign countries, will be subject to two cents postage unless they fulfill the conditions for "prints," in which case they will be mailable for one cent each. Cards which bear no more writing or typewriting than is authorized upon printed matter will be subject to the one-cent rate as "prints."

BOOK NOTICES AND REVIEWS.

A Systematic Course of Qualitative Chemical Analysis of Inorganic and Organic Substances, with explanatory notes, by Henry W. Schimpf, Ph. G. M. D., Professor of Analytical Chemistry in the Brooklyn College of Pharmacy. Third Edition, revised. New York, John Wiley & Sons, Inc., 1917. 187 pages, Price \$1.50.

The new edition of this book, which has proved its worth by two previous editions, both of which were successful, is about the same as the previous editions in scope and arrangement. It has been amplified and extended, however, in a number of directions, having a number of new separation schemes or charts.

The arrangement of the work is along the following lines: A preliminary chapter is devoted to general principles and definitions. Then follows the qualitative separation of the metals, which are divided into five groups. A particularly valuable feature of this part of the book is the supplementing of the synopsis by a chart and the subsequent detailed discussion of the reason for each step taken, illustrated in many cases with complete equations showing the reactions.

Another interesting and valuable feature is the chart for the comparative observation of the reactions of all bases with NaOH, NH_4OH and Na_2CO_3 , respectively.

Following the separation of the bases comes the plan for identification and separation of the acids, which is very comprehensive, and possesses many of the good points mentioned in connection with the preceding portion of the work.

Part III is devoted to the qualitative analysis of organic substances. There is not much opportunity for systematic work in this connection, as no scheme is possible which proceeds upon the plan of systematic elimination,

except in separate groups. However, the subject has been very cleverly handled and an interesting and instructive plan has been followed, which has much to commend it from the practical standpoint.

One of the novel and commendable features is a scheme for the systematic identification of the scaled iron compounds. There is also given a scheme for the detection of poisons and one for urinalysis, the latter being very complete and accompanied by practical advice in the matter of reporting.

The book concludes with a list of formulas for the various reagents referred to in the analytical schemes. Taken as a whole the book is commendable, either looked upon as a text book or a laboratory reference book.

C. H. L.

Medical Bacteriology.—By John A. Roddy, M.D., Associate in Hygiene and Bacteriology Jefferson Medical College; Chief Assistant, Department of Clinical Medicine, Jefferson Hospital; Professor of Hygiene and Bacteriology, Philadelphia College of Pharmacy; Sometime Serologist to the Philadelphia General Hospital; First Lieutenant, Medical Section O. R. C., U. S. A. Published by P. Blakiston's Son & Company, 1012 Walnut Street, Philadelphia. Price \$2.50.

Kircher, a member of the Society of Jesus, in 1846 reported the presence of "minute living worms" in putrid meat. He attributed the putrefaction to their activity and suggested that disease might be due to similar organisms. Taking this as the starting point, the author in his first chapter tells us in terse and well chosen language how the science of bacteriology has gradually developed.

The second chapter deals with the classification of bacteria, and in five pages a clear description of the morphology of microbic life

is given. The third chapter, dealing with the microscopy of the subject, is equally concise and practical, and in six pages the student finds all that it is really necessary to know concerning the microscope and its uses in bacteriological technique.

The subject of staining is treated in a very practical manner in the next chapter. Then follows a chapter on sterilization, of unusual value to both pharmacists and physicians. The up-to-date character of the work is well illustrated by a description of a method for preparing Dakin's solution, which includes an original letter by Dr. Carrel, published in the *Journal of the American Medical Association*, December 9, 1916, also by references to several of the more recent antiseptics and disinfectants, such, for example, as Flavine, knowledge concerning which product was taken from the *British Medical Journal* for January 20, 1917. The various improved forms of sterilizers are described, also methods of disinfection.

Chapter VI deals with culture media, a subject with which every pharmacist should be acquainted in a practical manner because the demand for culture media is an extensive one and should be supplied by the laboratories of professional pharmacists.

Then follows a series of thirty-seven short chapters dealing with the most important bacteria from a medical and surgical standpoint, including the staphylococci, streptococci, pneumococcus, meningococcus, micrococcus catarrhalis, diphtheria bacillus, tubercle bacillus, typhoid bacillus, bacillus tetani, etc. Each microorganism is briefly described and the method of cultivating it given. Sufficient information relating to the pathogenesis of each is furnished, to clearly indicate its disease-producing power. The method of bacteriological diagnosis is practically described and the question of serum and vaccine therapy briefly referred to. These chapters relating to the disease-producing bacteria are illustrated. Eight of the illustrations are printed in colors.

The remaining six chapters constituting Part I relate, respectively, to the higher bacteria hyphomycetes, saccharomycetes, monila, sporotrichum Schenkii, and to infectious diseases of unknown causation.

The first three chapters of Part II are devoted to bacteriological examination of fluids and solids, such, for example, as water, milk, catsup, eggs, etc.; then follows a chapter on "Determination of the Germicidal Power of Chemical Disinfectants."

The next chapter deals with bacteriological diagnosis, a subject which should be thoroughly mastered by the pharmacist to make himself of practical value to the physician.

A chapter on bacterial vaccines, both non-sensitized and sensitized, follows including tuberculin and their method of production. This chapter also includes the subject of rabies and the preparation of rabies vaccine, Coley's fluid, Haffkine's vaccine and anthrax vaccine.

Chapter VII deals briefly with the antitoxins and antimicrobial serums, including diphtheria antitoxin, tetanus antitoxin, anti-streptococcal serum, antimeningococcal serum and antianthrax serum.

Chapter VIII deals with the Wassermann and other complement-fixation tests and is beautifully illustrated. The technique for making these tests is so lucidly explained that any pharmacist who has followed the work practically up to this point should have no difficulty in carrying out the methods described.

The last chapter is devoted to the subject of immunity. This chapter is characterized by the same conciseness and clearness of description pertaining to the whole book. What is meant by virulence of bacteria is clearly set forth, and reference made to fluctuation in virulence. The question of natural and acquired immunity is considered, and the meaning of infections defined. Reference is made to the natural immunizing forces which afford resistance of man to infection; and the causes of lessened resistance are briefly related. Then follows information concerning the mechanism of immunity including Metchnikoff's discoveries regarding the destruction of bacteria by the body cells by means of a ferment-like substance known as *cytase*. Wright's opsonin which facilitates ingestion and digestion of bacteria by phagocytic cells, and Pfeiffer's phenomenon are described, and the various protective substances found in the blood serum briefly referred to. Ehrlich's side-chain theory is clearly described and diagrammatically illustrated within the brief compass of two pages. Anaphylaxis is discussed, and this excellent little text book ends with a short reference to the subject of animal inoculation.

Dr. Roddy's book is all that he claims it to be, namely, a text book for beginners and a laboratory guide for medical practitioners and pharmacists, presented in the clearest possible form.

The author acknowledges the aid given him

by Professor R. C. Rosenberger and the able assistance of Dr. Louis Gershenfeld, also the "invaluable assistance" rendered by Dr.

Robert M. Lukens, who made the illustrations, Mr. David R. Brewer, Dr. M. E. Smoczynski and Mrs. Mary L. Vogel. F. E. S.

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The result of the election of officers of the American Pharmaceutical Association for 1918-1919 has been reported to us as follows:

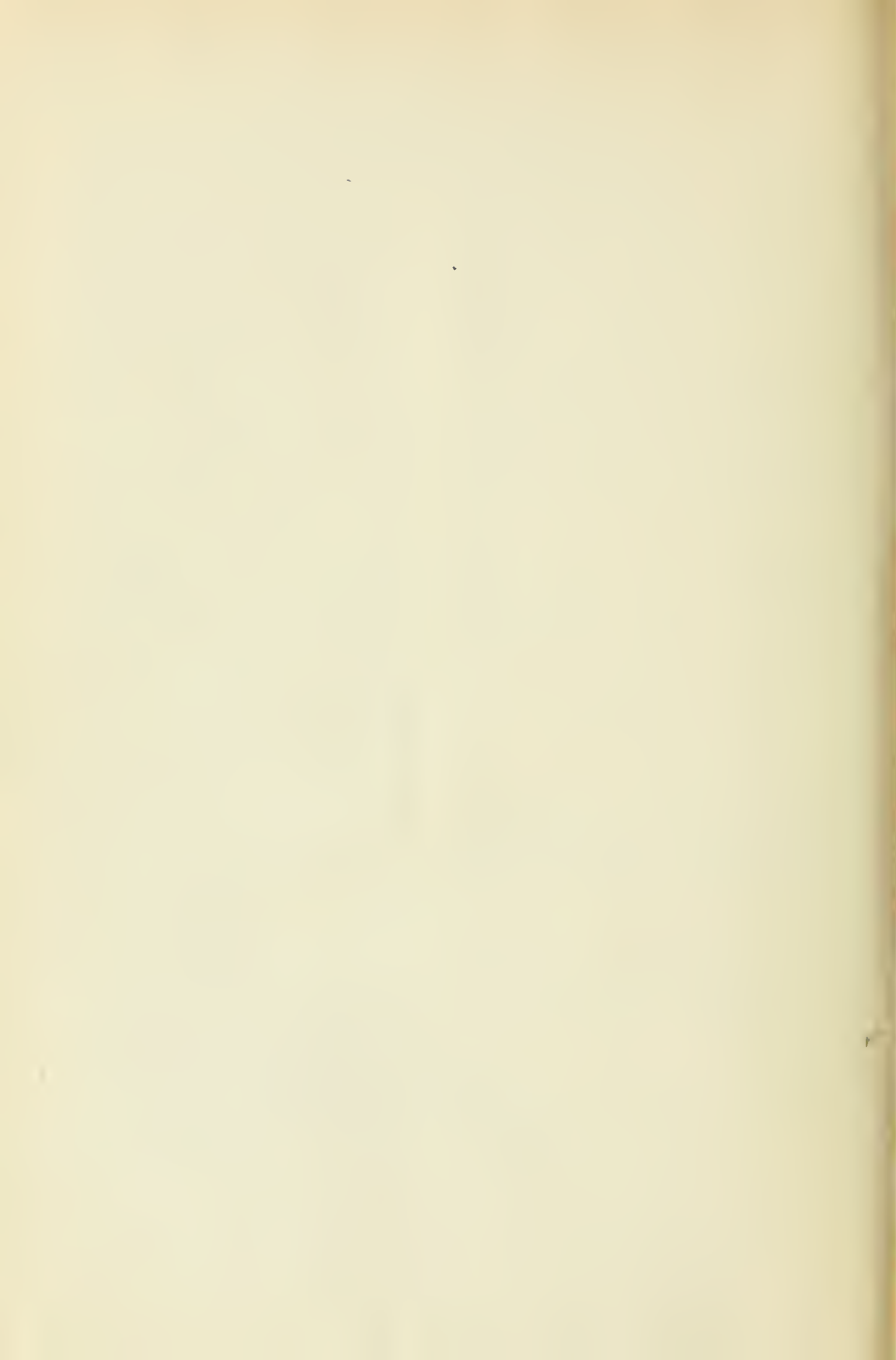
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Journal of the American Pharmaceutical Association.
Vol. 6. (1917)

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